McKinsey Global Institute

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Building globally competitive cities: The key to Latin American growth

The McKinsey Global Institute

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Building globally competitive cities: The key to Latin American growth

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Preface

Latin America is a bright spot in the postrecession global economy, with growth rebounding strongly in much of the region. But to lengthen today's strides toward recovery into a sustained period of rising prosperity will require the continent to take full advantage of the economic potential of its cities.

The McKinsey Global Institute (MGI) has a history of examining Latin America's economic performance, publishing its first major report on the region, *Latin American productivity*, in June 1994, and its first in-depth assessment of the Brazilian economy, *Productivity: The key to an accelerated development path for Brazil*, in March 1998. Latin America's economic performance is a topic we have revisited periodically. As part of a global 2005 study on the role of multinational companies in industry performance, MGI examined the productivity and growth of four sectors in Brazil and Mexico: automotive, consumer electronics, retail, and retail banking. In 2006, we published an update on Brazil's productivity performance, *How Brazil can grow*.

This report, building on our previous work, introduces a new emphasis on the role that cities play in Latin America's economy. It forms part of MGI's worldwide research into the dynamics of urban economies and is the result of collaboration with McKinsey's Latin America office. The project leadership team consisted of McKinsey directors Heinz-Peter Elstrodt from São Paulo and Andres Cadena from Bogotá, MGI director James Manyika from San Francisco, and McKinsey partner Alberto Chaia from Mexico City. Jaana Remes, an MGI senior fellow based in San Francisco, led the research team, working closely with Alejandra Restrepo, a McKinsey engagement manager from Bogotá. The team consisted of Florencia Ardissone, Borja de Muller Barbat, Aldo Borasino, Alejandra Botero, Felipe Diniz, Roberto Duran, Julian Ferris, Lucia Fiorito, and Melissa Floca. The team appreciates the contributions of Janet Bush, MGI senior editor, and Gina Campbell who provided editorial support; Rebeca Robboy, MGI external communications manager; Julie Philpot, MGI editorial production manager; and graphic design specialist Marisa Carder.

We are grateful for the vital input and support of numerous McKinsey colleagues in Latin America, including Lino Abram, Sergio Balcazar, Juan Bermudez, Pilar Cervantes, Patricia Ellen, Marcus Frank, Rodrigo Hetz, William Jones, Gagan Khurana, Andreas Mirow, Adilson Oliveira, Pablo Ordorica, Francisco Ortega, Clara Pava, Jose Maria Rancaño, Giacomo Rimoldi, Bruno Silva, and Jorge Torres. We would also like to thank McKinsey colleagues around the world for their expertise, including Marco Albani, Shannon Bouton, Benjamin Cheetham, Alejandro Diaz, Jaap de Jong, Henry DePhillips, Michael Lierow, Miguel Payan, Luiz Pires, Henry Ritchie, Betsy Rosenblum, Ken Somers, Sebastian Stern, Carrie Thompson, Ireena Vittal, and Jonathan Woetzel.

Distinguished experts outside McKinsey provided invaluable insights and advice. We would particularly like to thank our academic advisers Daron Acemoglu, Elizabeth and James Killian Professor of Economics at the Massachusetts Institute of Technology; Professor Ricardo Hausmann, Director of the Center for International Development and Professor of the Practice of Economic Development at Harvard University; and Michael Storper, Professor of Urban Planning at the University of California, Los Angeles.

This report contributes to MGI's mission to help global leaders understand the forces transforming the global economy, identify strategic locations, and prepare for the next wave of growth. As with all MGI research, we would like to emphasize that this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution.

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August 2011

Latin America's cities today

260 million people live in 198 large cities in Latin America

In 2007 these 198 cities generated

$3.6 trillion

of GDP—equal to the GDP of India and Poland combined

The top ten cities have a population of

95 million

. . . with average per capita GDP of

$18,000

. . . and total GDP of

$1.7 trillion

in 2007—30 percent of the region's total

NOTE: All data are for 2007. All GDP, per capita GDP, and GDP growth are measured at purchasing power parity.

. . . and tomorrow

315 million people will live in 198 large cities in Latin America in 2025—more than the population of the United States today

50 million people will enter the potential labor force by 2025—more than the working-age population in France today

65% of Latin America's growth to 2025 will come from 198 large cities

By 2025, 198 large cities will generate GDP growth of

$3.8 trillion—almost three times Spain's total GDP today

198 large cities will have per capita GDP of

$23,000 in 2025—more than the per capita GDP of Portugal in 2007

NOTE: All GDP, per capita GDP, and GDP growth are measured at purchasing power parity.

Contents

Executive summary 1

1. Latin America's cities are the key to its economic future 7

2. The performance challenge 21

3. How to shape competitive, inclusive cities 35

Bibliography 47

Executive summary

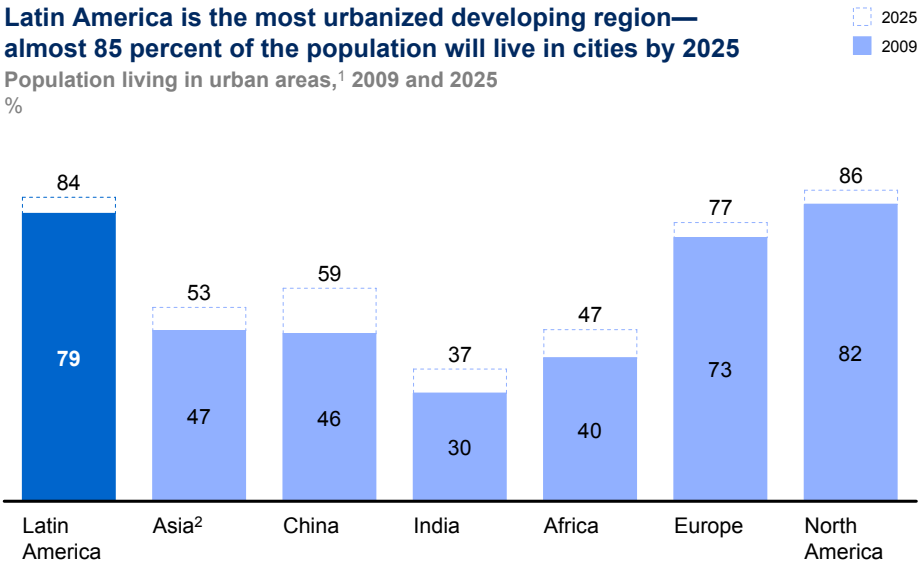
Latin America is more urbanized than any other region in the developing world with 80 percent of its relatively young population living in cities (Exhibit E1). The shift from country to town has contributed much to Latin America's growth, as economies of scale have boosted the productivity of expanding cities and reduced the cost of delivering basic services to their inhabitants.[1] Cities are critical to Latin America's overall economy. The region's 198 large cities—defined as having populations of 200,000 or more—together contribute over 60 percent of GDP today. The ten largest cities alone generate half of that output. Such a concentration of urban economic activity among the largest cities is comparable with the picture in the United States and Western Europe today but is much more concentrated than in any other emerging region. China's top ten cities, for instance, contribute around 20 percent of the nation's GDP.

Exhibit E1

Latin America is the most urbanized developing region—almost 85 percent of the population will live in cities by 2025

Population living in urban areas,[1] 2009 and 2025

%



1 Urban population according to national definitions.
2 Excluding China and India.
SOURCE: United Nations Population Division Department of Economic and Social Affairs, *World population prospects: The 2009 revision*, March 2010; McKinsey Global Institute analysis

The prominence of (particularly large) cities in Latin America's economy makes fulfilling their economic potential a key to sustaining growth in the region as a whole, according to new research by McKinsey & Company's Latin America office and the McKinsey Global Institute (MGI), McKinsey's business and economics research

1 The share of urban population rose from 40 percent in 1950 to 80 percent today as population in cities grew 1.5 times the rate of the region's population growth overall. In contrast, MGI research finds that urbanization will continue to be a major source of growth in China and India, which are in earlier stages in their urbanization. See *Preparing for China's urban billion*, McKinsey Global Institute, February 2009, and *India's urban awakening: Building inclusive cities, sustaining economic growth*, McKinsey Global Institute, April 2010 (www.mckinsey.com/mgi).

arm. Yet Latin America has already won a large share of the easy gains that come from expanding urban populations. Today, many of Latin America's largest cities are grappling with traffic gridlock, housing shortages, and pollution, all symptoms of diseconomies of scale. For the region's largest cities to sustain their growth, they need to be able to address challenges not only to their economic performance but also to the quality of life experienced by their citizens, sustainable resource use, and the strength of their finances and governance. Latin American urban economies need to pay close attention to all four of these dimensions if they are to continue to be the dynamos of the region's growth.

The relative youth of Latin America's population makes transforming its urban economies even more urgent. In marked contrast to the working-age populations in Japan and Western Europe as well as some developing regions, including China and Eastern Europe, Latin America's working-age population is projected to expand continuously until it peaks in the 2040s at around 470 million potential workers. That's 30 percent more than in 2007 and a net increase of 85 million or equivalent to three-quarters of today's labor force in the United States or Western Europe. This offers Latin America a significant potential demographic dividend if its economies can grow sufficiently to generate high-productivity jobs for this large, young workforce—many of them in an urban setting. Employed productively in a dynamic, job-creating economy, young workers could create the wealth on which future investment and sustained growth depend. Conversely, if Latin America's economies do not generate sufficient economic opportunities for this expanding young workforce, difficult social challenges could result.

By the second half of this century, Latin America's demographic profile will look more like Europe's with a shrinking proportion of economically active young people having to provide for a growing share of older people. Unless policy makers, businesses, and civil societies in Latin America take steps now to reform and develop their cities and create more productive jobs in the formal economy, the region runs the risk of growing old before it grows rich.

In order for cities to fulfill their growth potential, broader economic policies need to provide the right incentives for productive, sustainable growth. Past MGI research suggests two priorities: to dismantle long-standing regulatory barriers to productivity and growth in manufacturing and service sectors; and to make better use of the region's natural resources.

WELL-FUNCTIONING CITIES ARE CRITICAL FOR LATIN AMERICA'S GROWTH

Latin America's 198 large cities are expected to generate 65 percent of the region's growth over the next 15 years, MGI estimates. This is equivalent to around 6 percent of projected global GDP growth and is more than 1.5 times the contribution expected from large cities in Western Europe and similar to the contribution anticipated from India's large cities (see Box E1, "MGI has studied three major groups of cities in Latin America").

However, in many of Latin America's top ten cities—the most critical to the economy—the rate of economic growth has declined since the era of rapid urbanization that ran through the 20th century until 1970. Since 1970, growth rates in Brazil's São Paulo and Rio de Janeiro have dropped from above the national average to below the average. Other leading cities in the region have also recently grown more slowly than either their national economies or their midsize peers. For instance, the

Mexico City metropolitan region has posted a slower pace of growth than the average of the nation's 45 middleweight cities, which we define as those with populations of 200,000 to 10 million. (Exhibit E2).

Box E1. MGI has studied three major groups of cities in Latin America

Large cities. We define "large" cities as those with population of 200,000 or more, and we cover all 198 such cities across the region in our analysis. Within this group are four megacities with populations of 10 million or more—Buenos Aires, Mexico City, Rio de Janeiro, and São Paulo. The rest—cities with populations of 200,000 to 10 million—are the middleweights. Our analysis covers entire metropolitan areas, which we name by their core city—in other words, Mexico City and Buenos Aires in this report refer to the broader metropolitan regions that surround (and include) Distrito Federal and the City of Buenos Aires, respectively.[1]

Top ten. This group consists of the ten largest urban areas based on their GDP in 2007. In addition to the four megacities are six urban centers with GDP of $74 billion or more at purchasing power parity (PPP): Bogotá, Brasilia, Caracas, Lima, Monterrey, and Santiago.

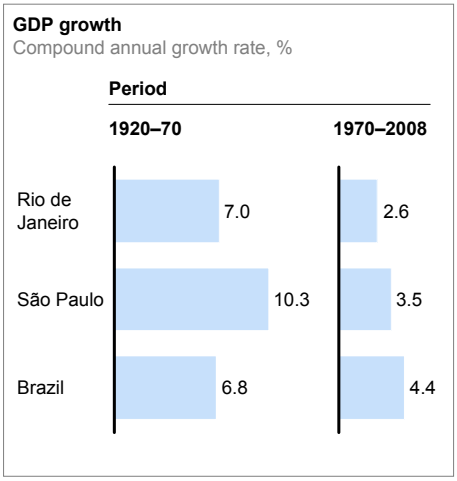
Top 50. This group consists of the largest 50 cities by GDP in 2007—the top ten cities and 40 others. The additional cities are Córdoba and Rosario in Argentina; the 12 Brazilian cities of Baixada Santista, Belo Horizonte, Campinas, Curitiba, Fortaleza, Goiânia, Grande Vitória, Manaus, Norte/Nordeste Catarinense, Pôrto Alegre, Recife, and Salvador; Gran Concepción in Chile; Cali and Medellín in Colombia; San José de Costa Rica in Costa Rica; Havana in Cuba; Santo Domingo in Dominican Republic; Guayaquil and Quito in Ecuador; San Salvador in El Salvador; the 11 Mexican cities of Ciudad Juárez, Guadalajara, León, Puebla, Querétaro, Reynosa-Río Bravo, Saltillo, Tijuana, Toluca, Torreón, and Veracruz; Panama City in Panamá; Montevideo in Uruguay; and Barquisimeto, Maracaibo, Maracay, and Nueva Valencia del Rey in Venezuela.

1 A metropolitan area is a region consisting of a populous urban core (the main city) plus surrounding territory that is socioeconomically linked to the urban core through commuting.

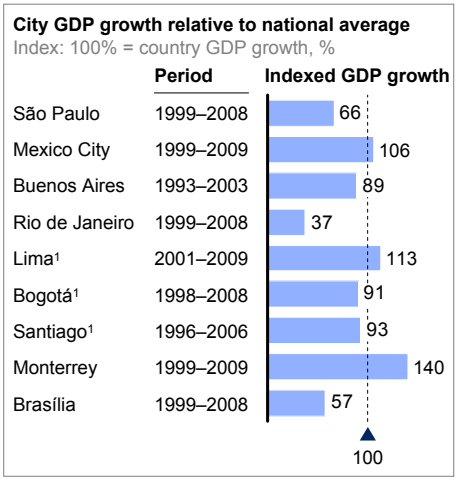
Exhibit E2

The growth of Latin America's largest cities no longer exceeds that of the rest of the region's economy

The relative growth of São Paulo and Rio de Janeiro have declined in the recent past



Most of the top ten cities have grown more slowly than their host economy



1 In cases where GDP data were not available at the city level but the city represented most of the region/province, we used data at this next level.

SOURCE: National and local statistical offices; McKinsey Global Institute Cityscope 1.1

Many of the top ten cities in the region have started to run up against constraints as urban management struggles to keep pace with the demands of expanding metropolitan regions that have "swallowed up" smaller towns that neighbor them but are outside their jurisdiction. The fragmented political boundaries that have resulted have often spread urban management responsibilities, such as for housing or economic development, among mayors and officials in multiple municipalities, state governments, and federal institutions. Planning and policy have often been uncoordinated and funding insufficient to meet growing needs. Many cities have outgrown the capacity of their infrastructure, the design of their transportation systems, and their ability to deliver adequate public services, making it difficult to "get things done" efficiently and effectively. As a result, cities are not generating enough high-productivity jobs to employ an expanding labor force, boosting informal economic activity to damagingly high levels.[2] Unless the largest cities significantly enhance the productivity and number of jobs they generate in the formal economy and boost the efficiency of their operations and management, MGI expects their growth rates to remain below the average for the region's midsize cities—and potentially drag down Latin America's overall rate of growth.

THE REGION NEEDS TO UPGRADE ITS LARGEST CITIES AND HELP MIDSIZE CITIES TO GROW

Latin America's political and business leaders need to act decisively on two fronts to improve the performance of the region's cities and turn its demographic profile to advantage. They need to reform and upgrade the region's largest cities and to enable a broader group of high-performing midsize cities to emerge.

Reforming and upgrading the region's largest cities

To understand how Latin America's largest cities might improve their performance, MGI has assessed performance in eight of the top ten cities (in descending order of GDP): São Paulo, Mexico City, Buenos Aires, Rio de Janeiro, Lima, Bogotá, Santiago, and Monterrey. The assessment is based on 100 quantitative indicators along the four dimensions that interact to deliver sustained urban economic growth: economic performance, social conditions, sustainable resource use, and finance and governance. MGI has collated the results of this analysis in an Urban Performance Index (UPI), a proprietary benchmarking tool designed to compare the performance of cities on detailed—and actionable—metrics.

Many Latin American cities lag behind cities around the world and in their region on these four dimensions (Exhibit E3). For example, Bogotá trails its regional peers particularly in its economic performance. Monterrey performs relatively strongly across all dimensions except sustainable resource use.

But our analysis also finds some examples of promising performance among the top cities. In Mexico, the technology cluster around the Monterrey System of Technology and Higher Education has strengthened collaboration between academia and business. More broadly, Monterrey's per capita GDP grew 40 percent faster than Mexico's between 1999 and 2009, and the city also has the lowest share of population living below the poverty line (4 percent) in the region. Buenos Aires and Bogotá stand out in health services. In each of these cities, more than 90 percent

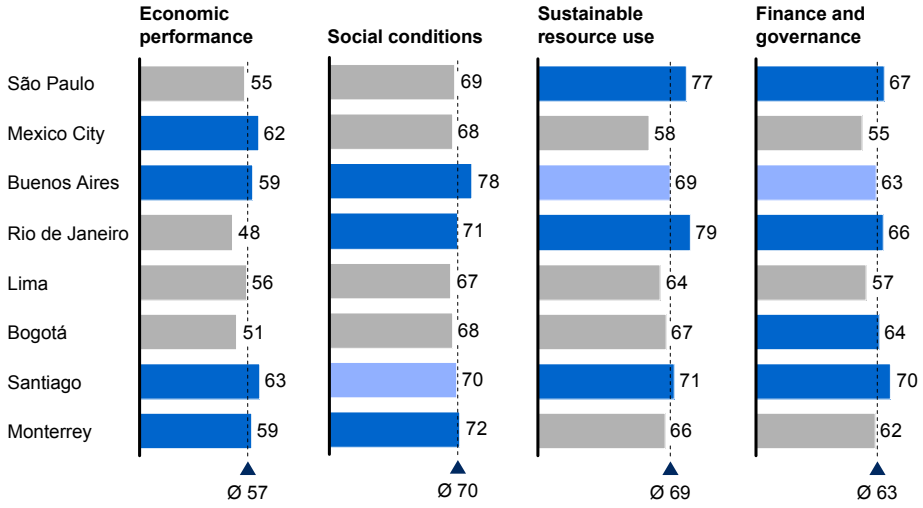
2 The region's regulatory environment, including inflexible labor regulations and costly red tape, also contributes to the region's high rate of informality. See *How Brazil can grow*, McKinsey Global Institute, December 2006; *New horizons: Multinational company investment in developing economies*, McKinsey Global Institute, October 2003 (www.mckinsey.com/mgi).

of the population has health coverage, which is higher than the 85 percent share of New Yorkers with health coverage. In telecommunications, Buenos Aires not only is the regional leader in mobile penetration—at 112 percent—but also has a higher score on this metric than the average of our four international benchmark cities. There are many examples of high performance in some of Latin America's largest cities on measures that are critical to their future growth. This offers an opportunity for others to follow suit.

Exhibit E3

Latin American cities perform poorly against international benchmarks

Index: Benchmark[1] = 100



1 Benchmark defined for each measure as the average of Helsinki, New York, Singapore, and Toronto.
SOURCE: McKinsey Urban Performance Index

Enabling the growth and competitiveness of midsize cities

Alongside Latin America's largest cities, a broad base of high-growth midsize cities has emerged. Today, 188 middleweight cities account for almost one-third of the region's GDP and are likely to generate almost 40 percent of the region's GDP growth to 2025. These cities now lag behind Latin America's largest urban centers in per capita GDP. However, the region's faster-growing midsize cities are likely to narrow that gap by 2025.

Middleweight cities that can provide an efficient environment attractive to businesses and to skilled workers will not only boost their growth significantly but could also become the model for a better designed and more sustainable urban future for Latin America. Promising examples of midsize cities introducing innovative policy and management include Panama City, Viña del Mar in Chile, Curitiba and Florianópolis in Brazil, Toluca and Mérida in Mexico, and Medellín in Colombia.

SEIZING THE URBAN DEMOGRAPHIC ADVANTAGE IN CITIES

Each city in Latin America faces its own distinct set of challenges and priorities, depending on its starting point. MGI has drawn on tried and tested success stories from the region and around the world to identify tangible actions that the region's city leaders could take to address the highest-priority issues they face. McKinsey's experience shows that effective policies can turn around a city's fortunes in as little as ten years. If the number and productivity of urban jobs improve in cities of all sizes, Latin America's young population can help to fuel growth in the long term.

□ □ □

This report is a call to mayors, policy makers, and business and civic leaders across Latin America to join forces and take action to make their cities powerful engines for growth. We hope that this analysis and its underlying data and analytic tools will help mayors and policy makers to diagnose any shortcomings in urban performance, provide actionable examples of how they might overcome current underperformance, and suggest appropriate goals and metrics that would allow city leaders to track progress toward superior performance. It is also our aspiration that our work can help enable companies to better position themselves for the evolving economic opportunities in urban consumer and business segments. Chapter 1 explains the prominence of large cities in Latin America's economy and the need to develop their economic potential. Chapter 2 examines the multiple challenges that Latin America's largest cities must address to fulfill that potential. The final chapter offers some thoughts on an agenda for urban renewal.

1. Latin America's cities are the key to its economic future

Latin America's cities dominate the region's economy. Although the largest cities have so far provided the lion's share of urban economic activity, their performance has recently started to decline and middleweight cities are becoming economically more important. All of Latin America's cities can continue to be regional growth turbines, creating the bulk of new jobs and boosting incomes, as long as they are productive and well managed.

CITIES ARE ALREADY A DOMINANT FEATURE OF THE LATIN AMERICAN ECONOMY

Latin America has the highest level of urbanization in the developing world, and the region's economy is also more concentrated in its largest cities. According to the Cityscope—MGI's global database of cities—Latin America has 198 cities with a population of 200,000 or more, scattered across the region (Exhibit 1 and Box 1, "MGI Cityscope").[3]

Exhibit 1

Latin America has 198 large cities with a population of 200,000 or more

SOURCE: McKinsey Global Institute Cityscope 1.1

3 *Urban world: Mapping the economic power of cities*, McKinsey Global Institute, March 2011 (www.mckinsey.com/mgi).

Box 1. MGI Cityscope

The MGI Cityscope is a database of more than 2,000 cities around the world that allows us to understand the evolving shape of global urban economies; extract many different city rankings and groupings by region, variable, and target market; and test the growth momentum that comes from doing business in particular geographies (Exhibit 2). The database is, to our knowledge, the largest of its kind. It can help answer a range of questions relevant for the decisions that companies and policy makers need to make. Which cities will contribute the largest number of children to the world? Where will most of the new entrants to the workforce and most senior citizens be living, and which cities will experience the fastest expansion among consuming middle-class income groups?

For each city, the database includes data for 2007 and 2025 on population by age group: children (below the age of 15), working-age population (aged 15 to 64), and the older population (aged 65 and above); GDP and per capita GDP (at market and purchasing power parity, or PPP, exchange rates as well as at predicted real exchange rate, or RER); and number of households by income segment in four income categories defined by annual household income in PPP terms: struggling (less than $7,500); aspiring ($7,500 to $20,000); consuming ($20,000 to $70,000); and global (more than $70,000). MGI has developed city-specific data from four types of sources: existing public surveys; city-level datasets developed as part of previous MGI research; external data providers; and MGI's country- and region-specific models of city growth to 2025. Over the next two to three years, MGI plans to expand Cityscope to include a broader set of variables (such as infrastructure investment opportunities, consumer demand and savings, and sector-level growth) and greater scenario capabilities.

For more details on the Cityscope database and the methodology behind the variables, see the technical appendix in MGI's report *Urban world: Mapping the economic power of cities* at www.mckinsey.com/mgi.

Exhibit 2

MGI's Cityscope: A source of global urban intelligence

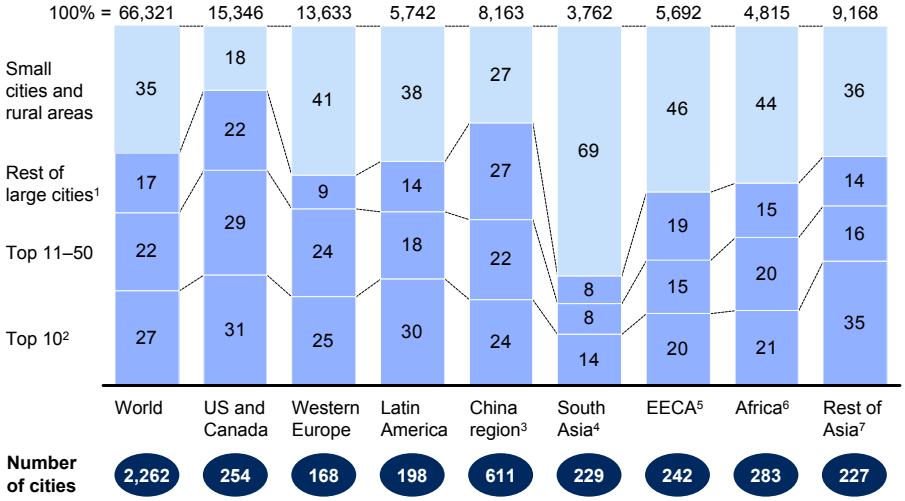
SOURCE: McKinsey Global Institute Cityscope 1.1

The 198 Latin American cities in MGI's Cityscope are together home to more than 45 percent of the region's population and produce more than 60 percent of its GDP today (Exhibit 3).[4]

Exhibit 3

Large cities in Latin America make a contribution to GDP similar to that made in developed regions

Cities' share in GDP, 2007
%; $ billion, PPP
100% = total of region



1 Cities with a 2007 population of 150,000 or more in the United States and Western Europe, and 200,000 or more in the rest of the world.
2 Cities ranked by GDP in PPP in 2007.
3 Includes cities from China, Hong Kong, and Taiwan.
4 Includes cities from Afghanistan, Bangladesh, India, Nepal, Pakistan, and Sri Lanka.
5 Eastern Europe and Central Asia.
6 Includes cities from North Africa and the Middle East and sub-Saharan Africa.
7 Includes cities from Northeast Asia, Southeast Asia, and Australasia.
NOTE: Numbers may not sum due to rounding.
SOURCE: McKinsey Global Institute Cityscope 1.1

In Latin America, past economic policies in part explain the relatively high contribution of the region's top ten cities to the overall regional economy. In the second half of the 20th century, many of the region's countries pursued a centralized model of economic management and opted to protect local industry through trade barriers. As a result, much economic activity clustered around political centers. In Mexico, for example, for decades a large share of fresh produce from across the nation was transported for sale at the wholesale market in Mexico City, *Central de Abastos*, only to be shipped back to the state it came from.[5] In other words,

4 The inhabitants of the 198 large cities in MGI's Cityscope are part of the broader grouping of urban population that includes urban dwellers in smaller cities and towns with populations of less than 200,000. This broader urban population shown in Exhibit E1 draws on data from the United Nations Population Division Department of Economic and Social Affairs in its *World population prospects: The 2009 revision*, March 2010.

5 For more on the link between Latin American industrial policies and the emergence of megacities, see Raul Livas Elizondo and Paul Krugman, *Trade policy and the third world metropolis*, National Bureau of Economic Research, NBER working papers, Number 4238, December 1992.

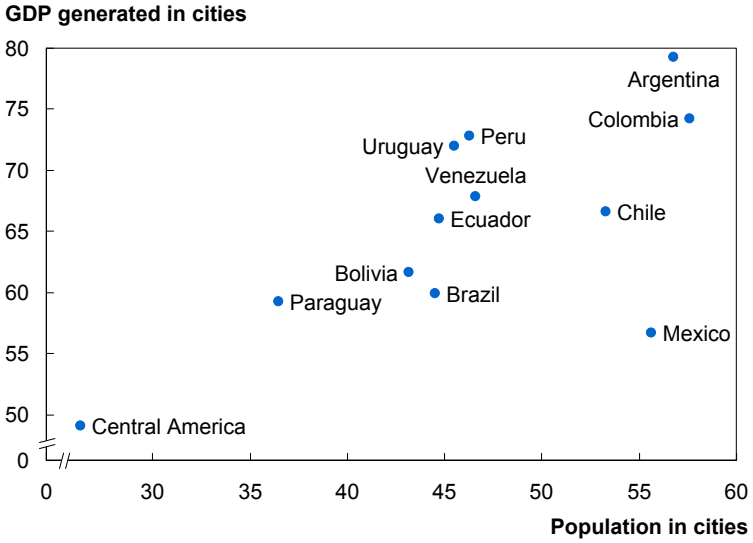
Latin America's megacities may have been the unintended by-product of import-substitution policies.[6]

Countries vary in the contribution their urban centers make to their national economies (Exhibit 4). By a large margin, Argentina and Colombia are the economies for which large cities are most important. In Argentina, Buenos Aires is home to around 30 percent of Argentina's population but more than 50 percent of national GDP, while Argentina's other 17 large cities together account for about half of that amount. Cities in Argentina are scattered all over the country, except in the sparsely populated Patagonia region. Colombia has 24 large cities clustered in the Andean and Caribbean regions. Bogotá accounts for almost 20 percent of the population but more than 25 percent of GDP, while the other 23 cities together account for 40 percent of the country's population and more than 45 percent of its GDP.

Exhibit 4

The contribution of large cities to GDP in their respective countries varies widely across the region

%, 2007



SOURCE: McKinsey Global Institute Cityscope 1.1

In Peru and Uruguay, large cities also account for a major share of GDP. In Peru, Lima is home to almost 30 percent of the country's population and produces 50 percent of its GDP, while the other ten large cities account for around 15 percent of the population and 20 percent of GDP. In Uruguay, Montevideo is the only city with a population greater than 200,000, and it accounts for around 45 percent of the country's population and 70 percent of its GDP.

Chile has eight major cities that are home to almost 55 percent of the population and account for 65 percent of the country's economy. Santiago, Gran Concepción, and Viña del Mar-Valparaíso alone account for more than 45 percent of Chile's population and contribute more than 55 percent of its GDP.

6 Latin America is not the only region where political factors help explain the patterns of urbanization observed today. The federal structure of Germany and India has led to a much more dispersed urban evolution, with geographically dispersed cities and more evenly distributed economic activities and midsize and small cities maintaining a large share of GDP. In the United States and China in contrast, clusters of large cities along the coast have grown through immigration and rapid per capita GDP growth to represent a large share of economic activity in these regions.

In Brazil and Mexico, the two largest economies of the region, large cities contribute about 60 percent of national GDP. Brazil, with its large territory, has 34 large cities that account for 45 percent of the country's population but 60 percent of its GDP. Brazil's two megacities, São Paulo and Rio de Janeiro, alone represent 15 percent of the country's population and 25 percent of its GDP. Mexico has 20 large cities widely dispersed around the country, but Mexico City dominates the urban profile. With a population of 20 million and an estimated GDP of $345 billion at purchasing power parity—more than 20 percent of the nation's GDP—Mexico City is already a global player by itself. Nevertheless, some of Mexico's other large cities play an important role in the economy. Guadalajara, Monterrey, and Puebla together account for 10 percent of Mexico's population and more than 10 percent of the nation's GDP.

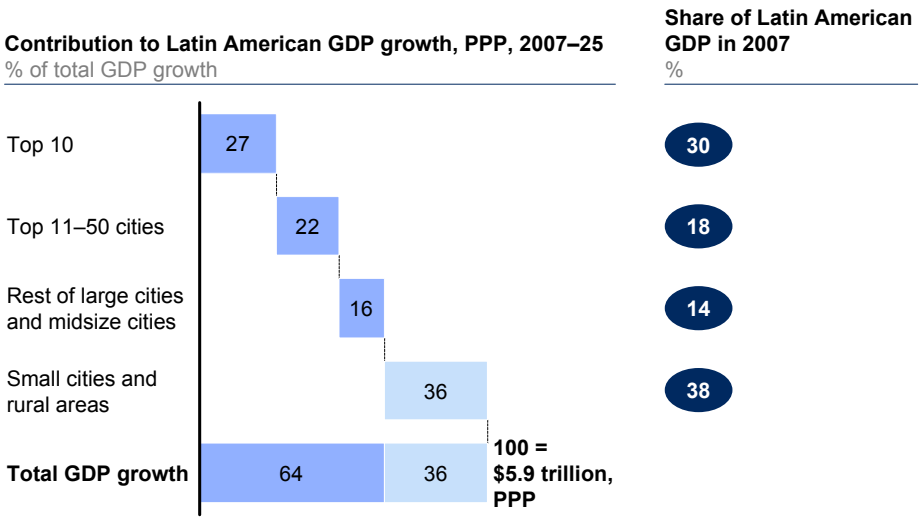
In contrast, large cities are less important in the economies of Central America and the Caribbean. In Central America, large cities represent less than 50 percent of the economy and are home to only 25 percent of the population. Within Central America and the Caribbean, large cities are more relevant in Bahamas, Panama, and Costa Rica, while the economies of Guatemala and Nicaragua are still based on smaller cities and rural areas.

LARGE CITIES IN LATIN AMERICA WILL BE THE ENGINE OF REGIONAL GROWTH…

Given their strong starting point, Latin America's large cities will continue to be the principal engine of the region's growth. MGI projects that the 198 Cityscope cities will contribute 65 percent of the region's growth between 2007 and 2025 (Exhibit 5). The combined population of these large cities is likely to increase by more than 55 million over the period, representing almost 60 percent of the region's overall population growth. We estimate that this increase in population will contribute 1 percent a year to the economic growth of large cities. Per capita GDP growth is the other source of increasing urban GDP, and we expect this to play a more important role than population, contributing 3 percent annually to urban GDP growth. Urban per capita income is likely to rise by 70 percent or more over the next 15 years.

Exhibit 5

Latin America's 198 largest cities will contribute 65 percent of total regional GDP growth between 2007 and 2025



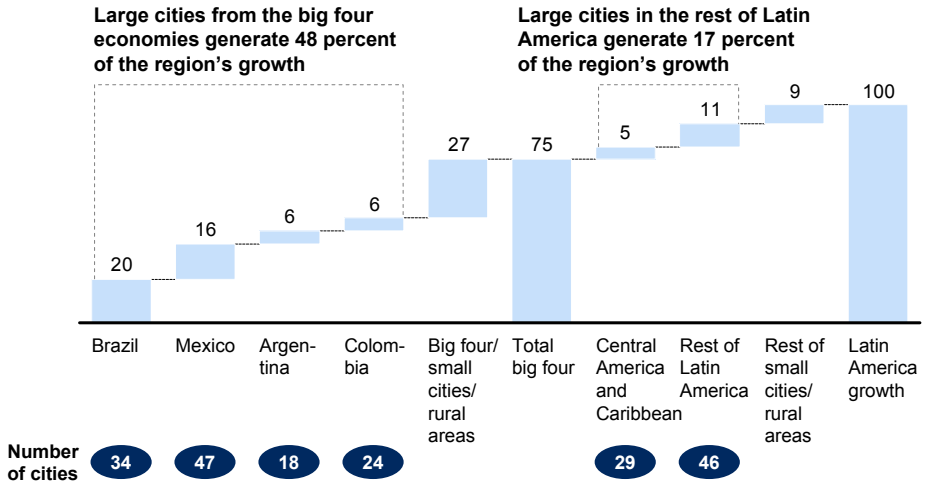
NOTE: Numbers may not sum due to rounding.
SOURCE: McKinsey Global Institute Cityscope 1.1

Growth will continue to be concentrated in a relatively small number of cities. MGI projects that the top 50 cities could generate almost half of the region's GDP growth, while the top ten cities alone are likely to produce more than one-quarter of Latin America's GDP growth between 2007 and 2025. The top ten cities in the region are expected to continue to have per capita GDP of more than 1.5 times the region's average. Urban growth engines are highly concentrated in Brazil and Mexico—81 of the large cities are located in these two countries and are projected to contribute 35 percent of Latin America's overall growth to 2025. Nearly half of the region's growth is likely to come from 123 cities in the four largest economies—Brazil, Mexico, Argentina, and Colombia (Exhibit 6). The concentration of growth varies from country to country in the region, reflecting differences in the distribution of GDP (see Box 2, "Growth contributions of largest cities by country").

Exhibit 6

Nearly half of the region's growth is likely to come from 123 cities in the four largest economies

%; PPP
100% = $5.9 trillion



NOTE: Numbers may not sum due to rounding.
SOURCE: McKinsey Global Institute Cityscope 1.1

Box 2. Growth contributions of largest cities by country

Within the largest Latin American countries of Brazil and Mexico, growth is highly concentrated in just a few cities. For instance, Brasilia, Rio de Janeiro, and São Paulo are expected to contribute almost 25 percent of Brazil's GDP growth and 8 percent of overall growth in Latin America between now and 2025 (Exhibit 7). The next 12 Brazilian cities, all included in the top 50 Latin American cities by GDP, are projected to contribute 25 percent to the country's growth to 2025 and almost 10 percent of Latin America's GDP growth during this period. We see a similar concentration in Mexico. We expect that, by 2025, Mexico City and Monterrey alone are likely to account for more than 30 percent of national growth and 7 percent of regional growth. The next 11 cities (also among the 50 top regional cities) are projected to contribute almost 25 percent to national growth and 5 percent to Latin America's growth overall in the period to 2025.

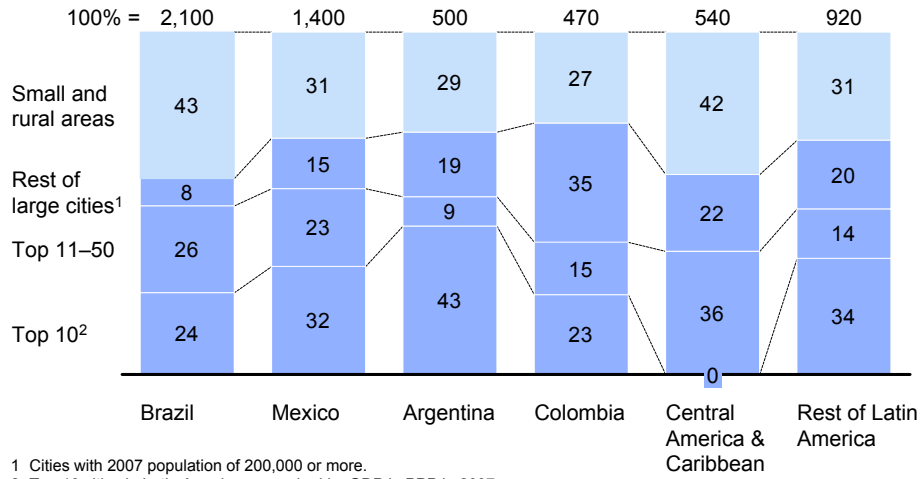
Although not quite matching the contributions of the major cities of Brazil and Mexico to regional growth, the large urban centers of Argentina and Colombia are set to play an even larger role in their respective economies, according to our analysis. We expect 18 cities in Argentina to contribute more than 70 percent of the country's growth to 2025 and 6 percent to Latin America's overall growth. We see Buenos Aires, Córdoba, and Rosario, the three Argentinean cities in the top 50, accounting for three-quarters of that. Bogotá is projected to contribute almost 25 percent of Colombia's growth. Bogotá and the other two Colombian cities in the top 50—Cali and Medellín—are expected to contribute almost 40 percent of the country's growth and 3 percent of the region's growth to 2025.

Large cities are also likely to play a significant role in the regional growth of Central America and the Caribbean. The five cities of Havana, Panama City, San José de Costa Rica, San Salvador, and Santo Domingo (all in the Latin American urban top 50) alone are expected to contribute more than 35 percent of Central America's growth and 3 percent of Latin America's overall growth to 2025.

Exhibit 7

Cities' contributions to GDP growth vary across countries

Cities' share in contribution to GDP growth, 2007–25
%; $ billion, PPP
100% = total of country



1 Cities with 2007 population of 200,000 or more.
2 Top 10 cities in Latin America are ranked by GDP in PPP in 2007.
NOTE: Numbers may not sum due to rounding.
SOURCE: McKinsey Global Institute Cityscope 1.1

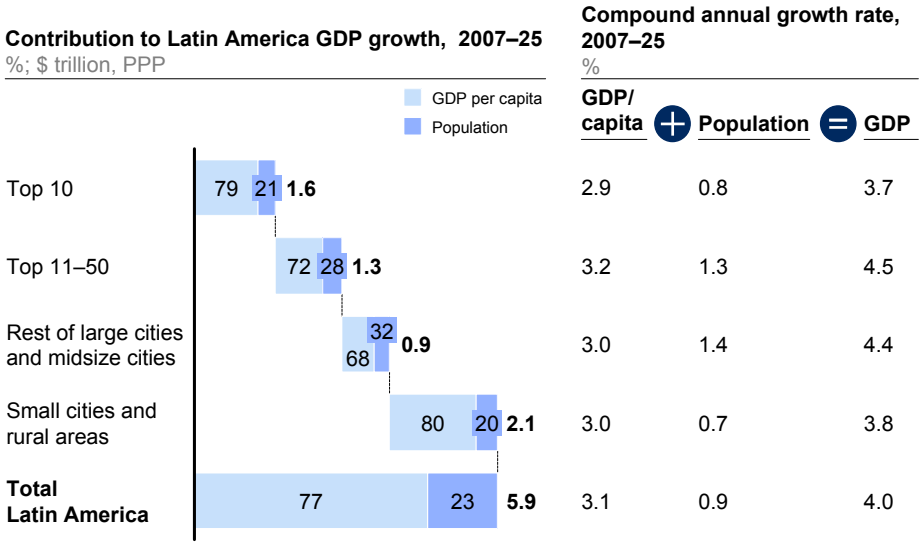
…BUT THE BALANCE IS SHIFTING FROM LATIN AMERICA'S LARGEST CITIES TO ITS MIDSIZE CITIES

Although the biggest cities contribute disproportionately to GDP, their relative weight in the economy is declining. Between 2007 and 2025, we expect the region's top ten cities to display below-average growth in both population and GDP, while the rest of Latin America's large cities are likely to expand their populations at an above-average rate. These cities are projected to generate almost 40 percent of the region's overall growth between 2007 and 2025, almost 1.5 times the growth the top ten cities are expected to generate (Exhibit 8).

What accounts for this shift in the balance of economic power? In Latin America's largest cities, signs of diseconomies of scale such as congestion and pollution have started to outweigh scale benefits, diminishing the quality of life they can offer citizens and sapping their economic dynamism. At the same time, economic liberalization across the region has reversed the centralizing bias that concentrated economic activity in the largest cities. The more decentralized economic approach has given middleweight cities a boost. These medium-sized urban centers lag behind larger cities in their per capita GDP today, but many have not yet run into the diseconomies of scale faced by larger cities.

Exhibit 8

Population and per capita GDP will grow faster in midsize cities than they will in the largest cities



SOURCE: McKinsey Global Institute Cityscope 1.1

Latin America's large cities are hitting diseconomies of scale

There is broad agreement that larger cities can benefit from economies of scale that boost their economic potential. As urban centers grow, their more concentrated industrial and service sectors develop higher productivity than rural counterparts; furthermore, providing goods and services in concentrated population centers is much less expensive. Our research indicates that the cost of delivering basic services such as water, housing, and education can be 30 to 50 percent cheaper in

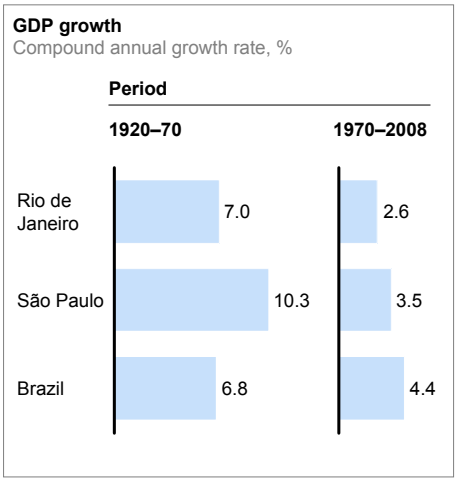
concentrated population centers than it is in sparsely populated areas.[7] Very large cities attract the most talent, draw the most inward investment, and are often at the center of a cluster of smaller cities, creating network effects that spur economic growth and productivity.

However, returns to scale in cities eventually start to diminish, and Latin America's large cities seem to have already passed the turning point (Exhibit 9). They may be experiencing diseconomies of scale unusually early because their institutional, social, and environmental support structures have not kept up with their expanding populations.

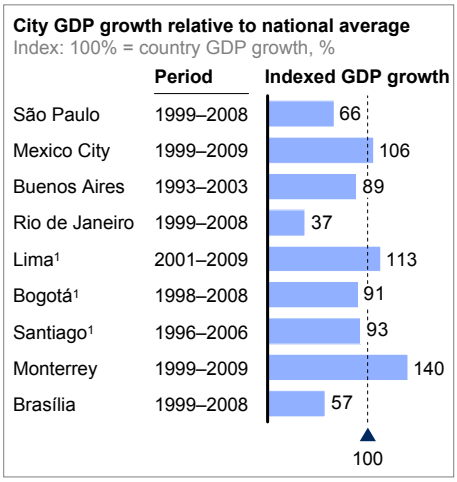
Exhibit 9

The growth of Latin America's largest cities no longer exceeds that of the rest of the region's economy

The relative growth of São Paulo and Rio de Janeiro have declined in the recent past



Most of the top ten cities have grown more slowly than their host economy



1 In cases where GDP data were not available at the city level but the city represented most of the region/province, we used data at this next level.

SOURCE: National and local statistical offices; McKinsey Global Institute Cityscope 1.1

Their current experience does not indicate that the region's largest cities have exhausted all available scale benefits—far from it. Latin America's largest cities can still support the growth of high-value enterprises in sectors including information technology, financial services, and R&D. All these sectors require a large pool of the kind of skilled labor that prefers living in cities. And these cities also offer opportunities to continue to boost productivity in a range of local infrastructure and service enterprises that today significantly lag behind their potential. But Latin America's largest cities are congested, poorly planned, and dangerous, making it difficult for enterprises to seize these opportunities. City governments, together with businesses and the civil society, need to tackle the problems that come with size in order for the largest cities to continue to be engines propelling the entire region's growth.

7 MGI estimates, for instance, that the cost of delivering a liter of piped water in urban areas is around 50 percent cheaper because cities are able to leverage common supply depots and cut distribution costs. The same advantage holds true for higher-end infrastructure as well. Some elements of the infrastructure that are critical to high-end services—international airports, for example—are economically feasible only in population centers of a certain minimum size. It takes $4.8 million in capital expenditure per daily flight in a city whose population exceeds 4 million but nearly $13 million in a city of less than 1 million. See *India's urban awakening: Building inclusive cities, sustaining economic growth*, McKinsey Global Institute, April 2010 (www.mckinsey.com/mgi).

Midsize cities are becoming more prominent with economic liberalization

Meanwhile, Latin America's medium-sized cities are growing rapidly. Just as economic policy in the 1970s and 1980s fostered the growth of the largest cities, the liberal shift in economic policy since the 1990s is fueling the rise of a broader set of cities today. Trade liberalization, a feature of that policy shift, tends to work with the grain of natural competitive advantages in each region. In Mexico, for instance, since the North American Free Trade Agreement (NAFTA) signing in 1994, economic activity has moved toward cities in the north of the country, lying closer to key US markets. Much of the recent growth in activities based on commodities has also occurred outside the major urban centers. This transition is illustrated by the decline of Mexico's *Central de Abastos*, the wholesale market, as an increasing number of modern food retailers have expanded their networks of regional distribution centers now that foreign players have entered the formerly protected domestic market.[8]

MGI expects midsize cities to contribute a larger share of economic activity in the medium term, making them an increasingly important engine of growth in the region. However, as the midsize cities grow in size and complexity, they will inevitably begin to run into the kind of challenges that the largest Latin American cities face today.

If Latin American city authorities invest in infrastructure and managerial capacity to anticipate demand arising from their expected population growth, they can achieve sustained improvements in living standards. Per capita GDP in these cities today lags 30 percent behind GDP in the largest cities—a wider income gap than that prevailing between inhabitants of cities of these different sizes in either the United States or Europe.

PRODUCTIVE CITIES REQUIRE A SUPPORTIVE ECONOMIC POLICY ENVIRONMENT

For cities to fulfill their growth potential, the broader economic policy environment needs to provide the right incentives for productive, sustainable growth. Past MGI research suggests two priorities: to dismantle long-standing regulatory barriers to productivity and growth in manufacturing and service sectors; and to make better use of the region's rich natural resources, which could provide an important additional impetus to the region's economy.

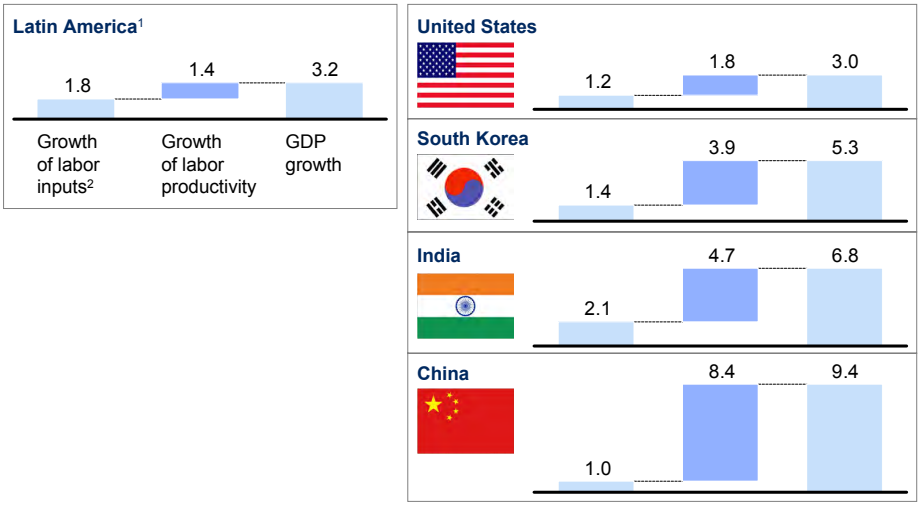
Per capita GDP in Latin America is now 30 percent that of developed economies, down from 37 percent 30 years ago. Latin America's per capita GDP has also declined from five times that of lower-middle income economies during this period to three times that of lower-middle income economies. Weak productivity is the main reason for Latin America's relatively slow growth (Exhibit 10). Since 1991, average productivity in the region has increased by only 1.4 percent a year, much less than in Asian economies. For instance, China's productivity grew by almost 8.5 percent a year over this period.

8 Food retail case study, *New horizons: Multinational company investment in developing economies*, McKinsey Global Institute, October 2003 (www.mckinsey.com/mgi).

Exhibit 10

Poor productivity growth has held back Latin America's GDP growth

Past real GDP (PPP) growth decomposition, compound annual growth rate 1991–2009
%



1 Aggregate number for Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay, and Venezuela.
2 Includes employment and population trends.
SOURCE: Conference Board 2010; McKinsey Global Institute analysis

There are signs that Latin America's broad economic performance is now improving. During the global financial crisis of 2007 to 2009, Latin America's overall GDP grew by 1 percent compared with a decline of 1 percent in the United States. Investors are enthusiastic about Latin America, as we can see from today's investment-grade credit ratings for Brazil, Mexico, Peru, Colombia, Chile, and Panama. The ability of many Latin American economies to sustain domestic demand, control budget deficits, and keep inflation low, coupled with strong demand from Asia for resources such as copper, iron ore, and gold, provided a sturdy platform for the region's strong growth in 2010.[9] But if Latin America were to lift remaining barriers to higher productivity in manufacturing and services, as well as become more efficient in its use of natural resources, the region could finally emulate the kind of rapid growth and economic development seen in Asia in recent years.

MGI examined a number of scenarios that cover the range of possible responses to the productivity imperative in Latin America, focusing in detail on three (Exhibit 11). The first scenario, "business as usual," assumes that there are no major structural changes in the region's economic environment that would shift growth from the current path of its countries' growth. The second, "optimistic," scenario assumes that each country (including large and small cities and rural areas) closes the gap between its sector productivity and best practice within the continent. In the third, "aspirational," scenario, we assume aggressive productivity growth. In the agriculture and service sectors, we assume that Latin America follows the productivity growth path that the United States experienced in the 1960s when it was facing a similar demographic transition. For manufacturing, we assume that Latin America replicates the average productivity improvement witnessed in South Korea between 1980 and 2000. The continent would quadruple its manufacturing productivity and boost service-sector productivity by 70 percent. The average productivity of the region would grow by a projected annual rate of 4.8 percent from 2007 to 2025.

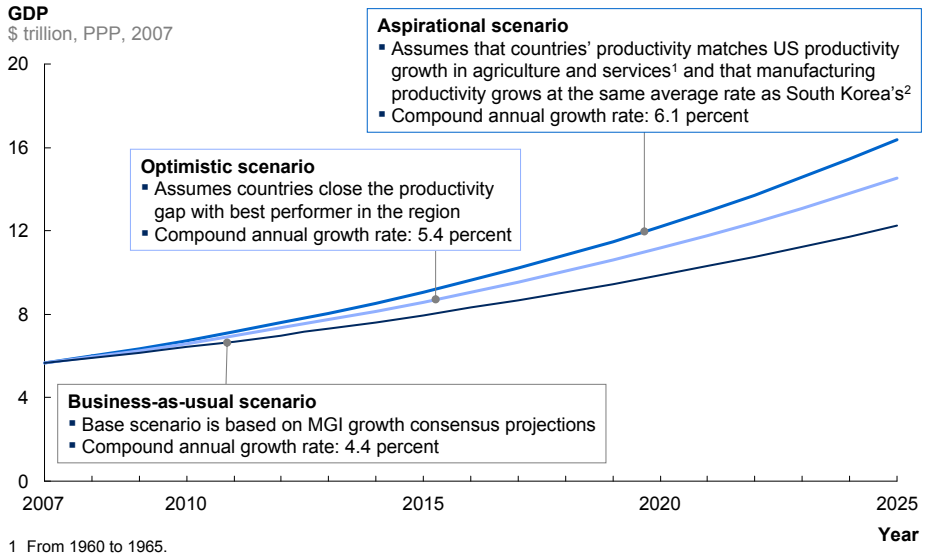
9 Brazil grew by an estimated 7.2 percent in 2010 and Mexico's economy grew by an estimated 5.5 percent.

Even if Latin America were to achieve the productivity gains outlined in the optimistic scenario, our analysis finds that the region's growth would increase to a compound annual rate of more than 5 percent from an average of 3 percent between 2000 and 2010, expanding the region's GDP more than 2.5 times between 2007 and 2025 and contributing 13 percent to expected world GDP growth during these years, comparable to India's contribution and almost 40 percent of China's.

Exhibit 11

MGI's three productivity growth scenarios have different impacts on GDP

GDP growth under productivity improvement


GDP
$ trillion, PPP, 2007
20
16
12
8
4
0
2007
2010
2015
2020
2025
Year
Aspirational scenario
▪ Assumes that countries' productivity matches US productivity growth in agriculture and services[1] and that manufacturing productivity grows at the same average rate as South Korea's[2]
▪ Compound annual growth rate: 6.1 percent
Optimistic scenario
▪ Assumes countries close the productivity gap with best performer in the region
▪ Compound annual growth rate: 5.4 percent
Business-as-usual scenario
▪ Base scenario is based on MGI growth consensus projections
▪ Compound annual growth rate: 4.4 percent

1 From 1960 to 1965.
2 From 1980 to 2000.
SOURCE: McKinsey Global Institute–McKinsey Latin America Model

We now turn to a brief discussion of the broader agenda that Latin America should consider to maximize the region's growth potential.

Letting manufacturing grow. Most Latin American countries have rolled back protection of local markets over the past 25 years. A few regional manufacturers have responded to global competition with outstanding success, among them Mexico's Grupo Alfa, the world's leading manufacturer of high-tech aluminum engine heads and blocks for the car industry and a producer of petrochemical products; Brazil's Embraer, the aircraft manufacturer; and Argentina's Tenaris, a leading supplier of specialized steel pipes.

Why haven't more companies followed their lead? The answer largely is that many restrictive labor rules and sector-specific regulations persist across the region, limiting the capacity of more productive companies to expand. High social taxes and stringent job security laws make firing redundant employees difficult and employers reluctant to hire, in addition to stoking the informal labor market.[10] Colombia's bottled drinks sector illustrates how some sector-specific regulations discourage productivity improvement. Compared with operations in peer countries, bottled drink suppliers in Colombia pay more for their purchased inputs and services: transportation costs are about 50 percent higher than in similar economies, reflecting both regulated freight prices, which increase costs, and poor roads, which

10 *New horizons: Multinational company investment in developing economies*, McKinsey Global Institute, October 2003 (www.mckinsey.com/mgi).

extend travel times. Colombia's companies also pay 27 percent higher prices for sugar because of import tariffs—despite the fact that the nation is a net exporter of sugar with the highest yield in the world. Similarly, import tariffs on capital goods raise equipment and machinery costs, making investments more expensive for manufacturers. The thoughtful dismantling of regulations that reduce potential returns to productivity improvements would automatically encourage regional manufacturers to grow, facilitated by a pool of business talent and capabilities in the region that can match or even outperform peers in higher-income economies.

Boosting the productivity of service sectors. The productivity of the region's large local service sectors stands at only 23 percent of the productivity of their counterparts in the United States. Improving service productivity would have a huge potential impact on employment. We estimate that these sectors will generate more than 60 million new jobs by 2025 and continue to be Latin America's main source of new employment. A large constraint on service productivity is the high share of the informal sector in the region's economies. Informality creates a productivity trap that inhibits more productive companies from expanding. Extensive MGI research into informal sectors finds that the substantial cost advantage that informal companies gain by avoiding taxes and regulations more than offsets their low productivity and small scale. This distorts competition. Inefficient informal players stay in business and prevent more productive, formal companies from gaining market share.[11] In Brazil, we estimate that 28 percent of the productivity gap of the economy overall is due to informality.[12] Measures that reduce the cost of formal employment to both employers and employees (for instance, lower labor taxes) and raise the risks of noncompliance (better monitoring and prosecution of informal operations) will bring informal service operators into the formal sector and create more productive service jobs.

Making more of abundant natural resources. Latin America boasts 45 percent of the world's tropical forests, the largest carbon sinks in the world; 31 percent of the globe's remaining arable land; four times the internal renewable water resources per capita of the rest of the world; 28 percent of the world's biofuels production; and 10 percent of global oil reserves, as well as rich veins of copper, iron, and silver. The region could make more of this abundance by extracting and selling these resources more efficiently abroad and by using them less wastefully at home. For instance, despite an increasing flow of investment into the mining sector, Latin America's productivity of this sector is on average 30 percent below US levels.[13] A large share of the region's oil reserves is extracted and processed inefficiently using aging plants and equipment in state-owned oil companies. Energy efficiency among households and businesses is low, particularly in economies that subsidize energy such as Argentina (electricity) and Mexico and Venezuela (gasoline).[14] Agriculture sectors and food industries consume water in volumes double or triple US and Chinese levels. Without improvements in water efficiency or the water supply infrastructure, water demand is projected to exceed supply by more than 60 percent in Latin America by 2025.

11 Diana Farrell, "The hidden dangers of the informal economy," *McKinsey Quarterly*, 2004 Number 3.

12 *How Brazil can grow*, McKinsey Global Institute, December 2006 (www.mckinsey.com/mgi).

13 Latin American agriculture has an even larger productivity gap with the United States, today standing at an average of only 12.5 percent of US agricultural productivity.

14 *Fueling sustainable development: The energy productivity solution*, McKinsey Global Institute, October 2008 (www.mckinsey.com/mgi).

Overall, the region has significant scope to improve the use of land and seize opportunities in the interdependent areas of carbon sinks, energy, and water. Brazil may be providing a model with its green development strategy. The government plans to support expected future annual GDP growth rates of 5 percent and rising energy demand largely through hydroelectric power generation. Brazil is also committed to clean transportation using biofuels and aims to maintain a strong position as a supplier of clean energy and carbon sinks for the world.

□ □ □

Latin America's growth challenge cuts broadly across the economy but the region will need its cities to perform if the region is to fulfill its potential, and this is the focus of this report. Problems run deep in large and medium-sized cities alike. We now turn to a discussion of the challenges facing urban Latin America, putting those challenges into an international context.

2. The performance challenge

Cities play a critical role in Latin America's economy, yet the region's largest cities lag behind the world's best—not just in their economic performance but also in their social conditions, sustainable resource use, and their finances and governance. Latin America's largest cities need to perform well on these dimensions if they are to continue to be the powerful engines of economic growth that the region needs.

To compare the performance of cities on each of these four dimensions, McKinsey has developed the Urban Performance Index (UPI), a proprietary benchmarking tool (see Box 3, "McKinsey's Urban Performance Index"). We have used the UPI to analyze the performance of eight of the top ten Latin American cities and to identify issues their policy makers need to address to bring them closer to being world class. The critical issues vary from city to city. For example, while Santiago performs at or above the average on most dimensions, Bogotá has the largest gap relative to its peers in the city's economic performance. Monterrey performs relatively strongly across all dimensions except sustainable resource use.

The index reveals many instances of strong practice. Below-average performance on any of the dimensions is an opportunity for policy makers to improve. If Latin America's largest cities could, in general, match the highest-performing practices in the region, the overall economic performance of the region could improve significantly. To illustrate, Monterrey in Mexico and Medellín in Colombia have both demonstrated the benefits of close collaboration between public and private sectors—in higher education and technology development in Monterrey, and in pooled funding for primary education and social services in Medellín. We hope that the UPI can help policy makers in Latin America's cities identify their strategic priorities for urban management.

Box 3. McKinsey's Urban Performance Index (UPI)

The UPI is a quantitative benchmarking tool for measuring the performance of cities. It takes an integrated urban planning approach across four key dimensions to give a holistic view of a city and its performance: economic performance, social conditions, sustainable resource use, and finances and governance.[1] The UPI is built from 100 quantitative measures across the four dimensions.[2] For example, the dimension of economic performance is an aggregate of three subcomponents: the capacity for wealth creation, the business environment, and strength in research and development. Each of these subcomponents has many individual metrics. We derive our 100 quantitative metrics from published sources, complemented by a proprietary survey on urban mobility that provides information on congestion that was not available elsewhere.[3] We indexed the performance of individual cities on each measure against the average performance of four global benchmark cities—Helsinki, Singapore, New York, and Toronto—setting the benchmark average at 100. We selected the global benchmark cities on the basis of their being a world leader on one or more of the key dimensions included in the UPI. Collectively, they set a high but realistic goal to which Latin American cities can aspire on each dimension.

The data presented in this section take a simple average of the components of each aggregate indicator. However, we designed the UPI to be flexible, allowing for alternative choices of indicators and weights. This enables us to provide diagnoses targeted for different purposes. For instance, while city mayors and citizens may be most interested in a general overview, infrastructure providers may care to highlight only those indicators most relevant to infrastructure. Organizations interested in sustainable cities may want to focus solely on the environmental component.

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1 McKinsey has helped develop city performance indices in other regions as well, with the goal of developing an integrated diagnostic tool for cities across the globe. For example, the Urban China Initiative, a think tank founded by McKinsey, Columbia University, and Tsinghua University's School of Public Policy and Management in 2010, recently published an Urban Sustainability Index (USI), the first index for measuring and comparing urban sustainability across China. For detail, please see Jonathan Woetzel, Geng Xiao, and Lan Xue, *The Urban Sustainability Index: A new tool for measuring China's cities*, Urban China Initiative, November 2010.

2 The UPI data refer to the latest data available in the fall of 2010 when we compiled the UPI. Despite our attempts to obtain all the indicators for consistently defined metropolitan areas, in some cases data are not available for this type of broader urban area. In a limited number of instances, we have therefore relied on data available for a more narrowly defined core city (typically a single jurisdiction). On the rare occasion when no subnational data have been available, we have relied on national averages as a proxy.

3 We polled 80 or more individuals on their peak and nonpeak commuting journeys in all of the Latin American and benchmark cities.

LATIN AMERICAN CITIES PERFORM POORLY AGAINST INTERNATIONAL BENCHMARKS IN AGGREGATE, BUT THERE ARE DIFFERENCES BETWEEN INDIVIDUAL CITIES

Latin American cities collectively lag behind the global benchmarks on all four of the dimensions that are crucial for growth, but the performance of individual cities on each dimension varies. We now look briefly at each of the dimensions in turn.

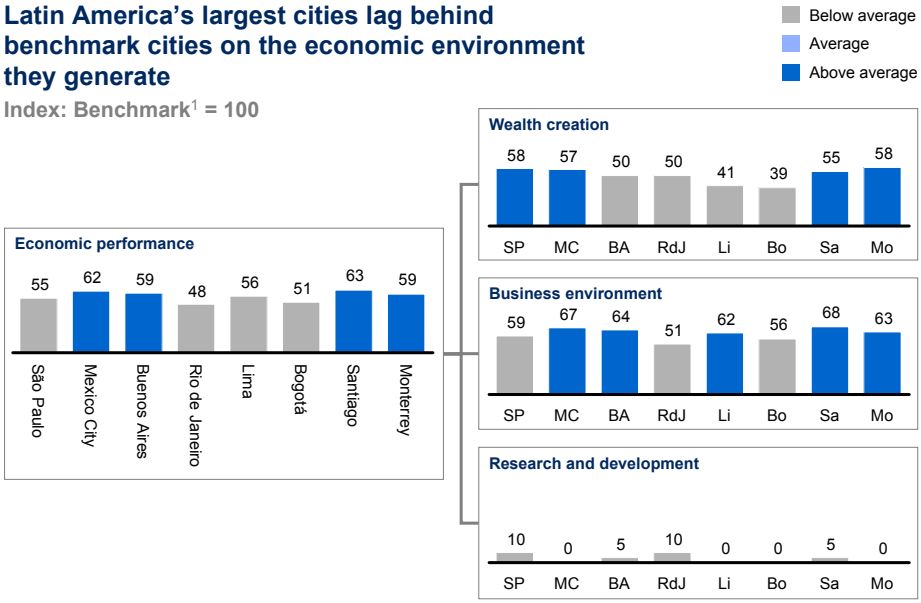
Economic performance

This dimension measures the ability of a city to promote and increase the incomes and productivity of its citizens. It combines indicators of a city's capacity to create wealth, its business environment, and its strength in creating innovative knowledge and technology (Exhibit 12).

Exhibit 12

Latin America's largest cities lag behind benchmark cities on the economic environment they generate

Index: Benchmark[1] = 100



1 Benchmark defined for each measure as the average of Helsinki, New York, Singapore, and Toronto.
SOURCE: McKinsey Urban Performance Index

Wealth creation. Latin American cities have widely varying per capita incomes (compared at purchasing power parity) ranging from $12,700 in Rio de Janeiro and $13,300 in Bogotá to $21,400 in Buenos Aires and $22,000 in Monterrey. Indeed, the gap between the per capita GDP of Latin American cities and global benchmarks is smaller than the corresponding gap between the per capita GDPs of their host nations. This reflects the fact that the largest Latin American cities have higher incomes relative to their national averages than do the benchmark cities with their host country averages. Within the region, Bogotá had the highest rate of unemployment in 2010 at 10.0 percent, while São Paulo had the lowest at 5.6 percent. Interestingly, all of the cities except for Bogotá had unemployment rates lower than Toronto's 9.3 percent and not far from New York's 8.8 percent—evidence of how hard hit by the global downturn cities in developed economies have been and how strongly many of Latin America's cities are rebounding in comparison.

Higher productivity, measured by dividing GDP by the full-time equivalent employed population, is the main driver of higher city incomes and long-term growth. The world's largest cities tend to have higher productivity than smaller cities and rural areas. Our analysis indicates that the productivity gap between Latin America's

largest cities and the four international benchmark cities we use for our analysis is smaller than the gap between the productivity of whole Latin American economies and those benchmarks. Let us take the benchmark city of Helsinki to illustrate. Helsinki has the highest GDP per employee in the sample at $107,000 in 2007. Productivity in Monterrey, which has the highest productivity of our Latin American sample, is 52 percent of Helsinki's—but the productivity of Mexico as a whole is only 30 percent of Helsinki's. The productivity of Bogotá, one of the lowest ranked of our eight Latin American cities on this metric, is 27 percent of Helsinki's, while Colombia's average productivity is only 19 percent of the productivity of the Finnish capital.[15]

One key factor explaining higher productivity in cities is that they have a higher share of skilled workers than the rest of the nation. While Latin American cities outperform the rest of their nations in developing and attracting skilled workers, they lag far behind the global benchmarks, suggesting much room for improvement. Across Latin America, an average of 16 percent of the adult population holds a university degree compared with 30 percent in Toronto, for instance; in Santiago, 27 percent of the adult population has a university degree, but the figures for São Paulo and Rio de Janeiro are 8 and 10 percent, respectively.

Business environment. Excessive regulation hobbles entrepreneurship in many cities in Latin America. For example, registering a property in Rio de Janeiro and Mexico City takes 74 days. The time needed to open a new business can vary from 27 days in Lima to 152 days in São Paulo. The onerous regulatory environment, coupled with associated corruption, has been a major cause of the region's high level of informal economic activity (see Box 4, "The informality trap").[16]

Latin America continues to have very high rates of informal labor compared with global cities, although there are exceptions. For instance, Santiago has made substantial progress in addressing regulatory anomalies that encourage informality. The city now has the lowest informality rate of the eight Latin American cities we have examined with 30 percent of the total workforce in informal employment compared with an average of close to 50 percent in the seven other cities. Several efforts explain Santiago's progress. First, a number of reforms have increased the benefits of formality to both employees (health and pension system reforms and larger unemployment benefits for those formally employed) and business owners (easier access to credit). Second, compliance costs have declined as a result of simplified value-added and income-tax codes as well as efforts to target small and medium-sized enterprises with streamlined e-government processes and support for IT adoption. Finally, government has increased sanctions for noncompliance.

15 The cost of regulation in Colombia's bottled drinks sector helps to explain Bogotá's low productivity. Yet there are signs that Colombia is improving the situation. Colombia launched its Productive Transformation Program in 2007 to boost the competitiveness of eight key economic sectors in industry and services and, more recently, in six agro-industrial sectors. The cornerstone of the program is much closer collaboration between the government and the business community. Government collaborated with businesses in workforce education and training, made enabling changes in the regulatory environment, expanded export promotion in foreign markets, and developed the necessary infrastructure. Early results from this program suggest that tighter collaboration has not only removed investment barriers but also built competitive advantages. For more information, see www.transformacionproductiva.gov.co. Also see Luis Andrade and Andres Cadena, "Colombia's lesson in economic development," *McKinsey Quarterly*, July 2010.

16 *How Brazil can grow*, McKinsey Global Institute, December 2006 (www.mckinsey.com/mgi).

As a result, tax evasion is estimated to have declined from 20 percent in 2000 to 11 percent in 2005.[17]

Innovation. None of the Latin American cities we evaluated perform well on this dimension. Buenos Aires boasts the highest number of high-tech patents within the region at six annually, but Helsinki and New York dwarf this number with 340 and 850, respectively. Rio de Janeiro does relatively well within Latin America by having 240 high-tech research papers—but Singapore has 2,800. Inconsistent links between academia and the private sector, regulatory barriers to the creation of new businesses, and the poor protection of intellectual property all hinder the development of new technologies, innovation in processes, and value-added sectors in the region.

Box 4. The informality trap

Extensive MGI research into informal sectors—where enterprises evade tax and flout business law such as labor regulations—shows that informality creates a productivity trap that discourages more productive companies operating in the formal sector from expanding. The substantial cost advantage that informal companies gain by avoiding paying taxes and complying with regulations more than offsets their low productivity and small scale. This distorts competition. Inefficient informal players stay in business and prevent more productive, formal companies from gaining market share.[1]

For informality to act as a barrier to productivity growth, you typically need sufficiently high value-added or employee taxes to make tax avoidance valuable and sufficiently poor enforcement to make avoidance feasible. In MGI's experience, informal players can enjoy cost benefits that range from 5 to 20 percent of the final retail price—not trivial in a tight-margin business such as retail. Avoidance of VAT and employee-related taxes is an important contributor to this cost benefit in the informal sector.

To illustrate, in the Brazilian food retail sector, MGI estimates that an informal player that can underreport sales and employee costs by 30 percent can improve net margins more than threefold. This applies not only to traditional corner stores but also to the number of regional retail chains operating informally that offer tough competition to players in the formal sector. Some formal-sector retailers have responded by buying such informal chains, but this strategy has been unsuccessful. Despite being able to increase productivity in the acquired operations by more than 30 percent, they have to charge higher prices to cover their increased tax obligations; as a result, their sales suffer and their net margins evaporate.[2]

1 Diana Farrell, "The hidden dangers of the informal economy," *McKinsey Quarterly*, August 2004.

2 Food retail case study, *New horizons: Multinational company investment in developing economies*, McKinsey Global Institute, October 2003 (www.mckinsey.com/mgi).

17 D. Contreras, L. de Mello, and E. Puentes, *Tackling business and labour informality in Chile*, OECD Economics Department working paper, Number 607, OECD Publishing, doi:10.1787/242111325372.

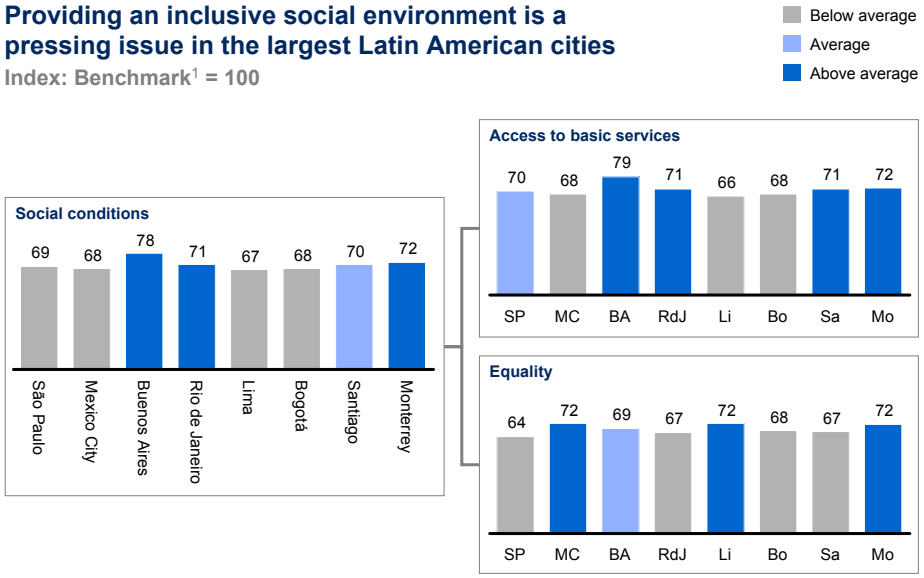
Social conditions

The eight cities struggle to provide high-quality social conditions for their citizens across a range of measures including access to basic services such as education, health care, security, effective and sufficient infrastructure, and banking services. Providing a secure environment and banking services, in particular, are pressing issues in many Latin American cities. The degree of income equality is the second component of the overall social conditions indicator (Exhibit 13).

Exhibit 13

Providing an inclusive social environment is a pressing issue in the largest Latin American cities

Index: Benchmark[1] = 100



1 Benchmark defined for each measure as the average of Helsinki, New York, Singapore, and Toronto.
SOURCE: McKinsey Urban Performance Index

Access to basic services

- **Security.** Insecurity among citizens due to crime is a theme that runs through Latin America's cities. The average cost of insuring a car against robbery is 33 percent higher than it is in New York. The homicide rate in some Latin American cities is extremely high. Rio de Janeiro has 33 homicides per 100,000 people each year, compared with four in New York City in 2009 and three in Toronto in 2007. Bogotá has 19 homicides per 100,000. Interestingly, Monterrey has had one of the lowest homicide rates of any Latin American city at 5.5 per 100,000 but increasing drug-related violence caused this number to grow at astonishing rates in 2010 and 2011 (estimates suggest a tripling in the homicide rate over these two years). Monterrey's kidnapping rate of 15.5 per 100,000 is also significantly above average, again reflecting drug-related crime in the region.

- **Banking services.** Access to banking services tends to be poor in most of the region's cities with the exception of Santiago where 82 percent of citizens have at least one savings account. In the other seven cities studied, 61 percent or less of their populations has at least one savings account. To put this into context, 90 percent of the inhabitants of New York have at least one savings account. So despite the tendency of urbanization to boost financial inclusion, both low income levels and high levels of informality hinder the penetration of banking services among savers or borrowers. Recent McKinsey research found that because of a high level of informality, a lack of trust in the system, and a shortage of attractive

savings vehicles, only 20 percent of national savings in Argentina actually flow into the financial system.[18]

- **Health care.** Latin America scores only 56 percent of the benchmark on health care in the UPI. The average infant mortality rate across the eight cities studied is 12 per 100,000, six times the rate in Singapore. The average maternal mortality rate in the eight cities is 52 per 100,000, 19 times the rate in Singapore. São Paulo and Rio de Janeiro are particularly noteworthy for their poor access to basic health care despite the fact that these cities have the best health care infrastructures in the region. São Paulo, for instance, has more doctors per 100,000 of the population than New York (5.0 compared with 3.4) and more hospital beds per 100,000 of the population (2.5 versus New York's 2.3). Yet São Paulo currently provides health care coverage for only 52 percent of its population and Rio de Janeiro for 27 percent compared with coverage of 85 percent in New York.

  Buenos Aires and Bogotá stand out in the region with more than 90 percent of the population having health care coverage (either through private insurance or the public health system). This share is higher than New York's health care coverage and not far behind benchmark city Helsinki's 100 percent coverage. Bogotá benefits from an effective single national health care system—based on the Chilean model established in the 1980s—that collects proportional employee health care payments into a single payer pool but offers a range of private and public health care providers.[19] Bogotá today has many of the leading health care institutions and physicians in the region. Fundación Santa Fe is just one example; another is the Barraquer eye care clinic, recognized globally for its invention of corneal transplants.

- **Education.** Literacy levels in Latin America are high, but cities suffer from a poor educational infrastructure. There is a deficit of teachers (on average, the region has 20 students per teacher compared with 16 in Toronto, for instance) and schools (the region has a deficit of 100 schools for every 100,000 of the school-age population compared with Helsinki). Only 84 percent of Latin America's school-age population attends school, which is low in comparison with 95 percent in Helsinki. Latin America's cities also have a high dropout rate from primary school institutions. In São Paulo and Mexico City, this rate is twice the benchmark city level and it is up to 12 times the benchmark level in Lima. Results in the PISA Test (Programme for International Student Assessment) are consistently low. Santiago has the highest score of the eight Latin American cities we discuss at 79 percent that of Helsinki, the benchmark on this indicator. Bogotá, São Paulo, Rio de Janeiro, and Buenos Aires stand at only 70 percent of the Helsinki benchmark.

18 Gaston Bottazzini, Adrian Kohan, Susan Lund, and Martin Sommer, *Accelerating Argentina's financial growth through financial system improvement*, McKinsey & Company, September 2008.

19 Despite its high level of coverage, recently the Colombian health care system has not been without its challenges, which have included a corruption scandal in mid-2011 involving some of the country's largest health care providers (EPS, *Entidades Promotoras de Salud*).

- **Utilities.** In terms of access to electricity, water, gas, and sewage services, Latin American cities enjoy relatively high rankings. The exception is Lima, whose score is low because 20 percent of the population still doesn't have access to running water. Mexico City, Santiago, and Buenos Aires have a relatively low penetration of network-distributed gas, but a large share of their population has access to gas through cylinders. The other five Latin American cities we highlight all have gas coverage rates of more than 80 percent. In electricity service, the region's coverage is consistently above 90 percent of the population.

- **Telecommunications coverage.** Telecoms coverage of the urban population varies widely from 83 percent in Santiago to 57 percent in Bogotá. The low coverage rate in the Colombian capital reflects a weak rate of Internet penetration of 11 percent. Overall, Latin American cities have disappointingly low Internet penetration at only 36 percent of the city population compared with Singapore's 80 percent and New York's 52 percent. Broadband penetration is closely correlated with the World Economic Forum's Global Competitiveness Index. This suggests that to improve their appeal as a business location, the region's cities (except Santiago) may need to boost broadband penetration and coverage.[20]

Equality

Latin American cities continue to face the twin challenges of inequality and poverty. The average Gini coefficient (the most commonly used global comparative measure of inequality) of the region's cities is 23 percent higher than in benchmark cities. The percentage of the urban population living below the poverty line—which we measure as an income of less than $3.42 per day per person—is more than 14 percent in São Paulo, Rio de Janeiro, Buenos Aires, Bogotá, and Lima, and on average around 5 percent in Monterrey, Mexico City, and Santiago. Gender inequality is also a factor in Latin American cities. We find women's salaries are 83 percent of average salaries (both men and women) in São Paulo, Rio de Janeiro, and Santiago. There is a smaller but still significant gap of 8 percentage points in Bogotá, Mexico City, Monterrey, Lima, and Buenos Aires.

Sustainable resource use

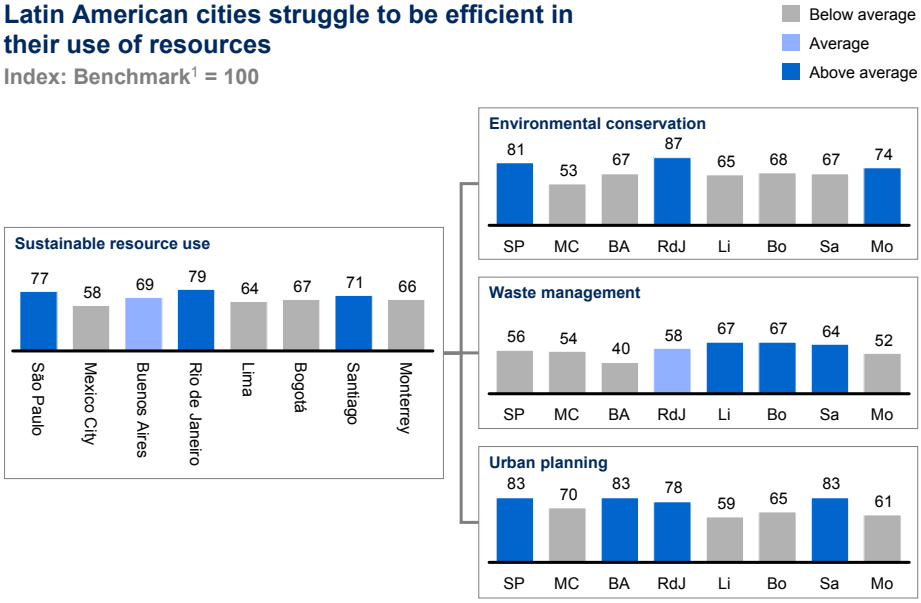
The sustainability measure reflects a city's capacity for environmental conservation, waste management, and urban planning. Latin American cities struggle to use resources such as energy and water efficiently. The region's urban centers also face a significant challenge from increasing demand for housing expected over the next 15 years. This in turn is intensifying the search for more efficient and profitable municipal waste-management solutions (Exhibit 14).

20 *Mobile broadband for the masses: Regulatory levers to make it happen*, McKinsey & Company, February 2009 (ww1.mckinsey.com/clientservice/telecommunications/Mobile_broadband_for_the_masses.pdf).

Exhibit 14

Latin American cities struggle to be efficient in their use of resources

Index: Benchmark[1] = 100



1 Benchmark defined for each measure as the average of Helsinki, New York, Singapore, and Toronto.
SOURCE: McKinsey Urban Performance Index

Environmental conservation. Energy consumption is inefficient in Latin American cities, leading to wasted resources and higher costs. For example, every dollar of GDP generated in Santiago requires 60 percent more energy than a dollar of GDP generated in Helsinki, despite Helsinki's much harsher climate. Although water is scarce in many of the cities, water use is inefficient. Mexico City, for instance, consumed 33 percent more water than Helsinki's 93 cubic meters per capita in 2008. Sewage treatment is another challenging area. Bogotá and Mexico City treat only 28 and 15 percent of sewage, respectively, compared with 100 percent in Helsinki. The figures are more positive for Rio de Janeiro, Santiago, São Paolo, and Buenos Aires.

Waste management. In Latin America, six of the eight cities we examined generate around 45 percent more waste than Helsinki, with 340 tons per capita. The exceptions are Lima and Bogotá, which produce significantly less waste at 297 tons per capita. Waste disposal is mainly in landfills—the percentage of recycled and composted waste is less than 1 percent, compared with 49 percent in Helsinki and 20 percent in New York. Mexico City and Lima are the most polluted cities of the eight we highlight. Mexico City has six times Helsinki's emissions of nitrogen dioxide (NO_2) while Lima exceeds Helsinki's emissions of PM10 particulate matter by the same ratio. Buenos Aires, Monterrey, São Paulo, and Rio de Janeiro report lower levels of PM10 and sulfur dioxide (SO_2) because their geographical location and Atlantic airflows help to remove these pollutants from the atmosphere.

Urban planning. Latin American cities have urban planning departments but not all have a sufficiently long-term focus. While Santiago and Buenos Aires have 20-year planning horizons, urban plans in Bogotá and Monterrey look ahead for only two years. Short-term planning has an impact on a number of dimensions. For instance, Latin American cities lag behind international benchmarks on the development of green space within urban centers. In Helsinki, 30 percent of the urban area is devoted to green space compared with Rio de Janeiro's 22 percent and only 5 percent in Santiago and Monterrey. Buenos Aires has only 6.1 square meters per person of green space—9 percent of the total urban area.

Latin American cities are densely populated, although there is a wide variation between cities. Santiago is the most densely populated city of our sample with around 6,500 people per square kilometer, while Monterrey has fewer than 600 inhabitants per square kilometer. The only benchmark city that is as densely populated as Santiago is Singapore; New York is only one-sixth as densely populated with 1,000 inhabitants per square kilometer.[21] In Latin America, Buenos Aires is the next most densely populated city with about 3,300 people per square kilometer, followed by São Paulo and Mexico City, both of which have approximately 2,400 people per square kilometer. The highest densities are found in leading cities; secondary cities, such as Rio de Janeiro in Brazil, tend to have lower densities. High density can lead to savings in the consumption of resources and commuting times, for instance. Yet these benefits have frequently not fully materialized in the region because of a lack of coordinated urban planning and management. Moreover, the way that cities have grown by swallowing up neighboring towns outside their jurisdiction has created difficulties in making decisions on investment and regulation. It has also caused tensions between mayors and governors who frequently compete with each other using tax incentives and other regulatory tools to shift business from one town to another.[22] This destabilizes the long-term financial stability and governance of these large cities.

Finance and governance

Virtually every aspect of a city's development depends on its finances and governance—the scale and security of its sources of public income and how well public financial resources are managed. The authorities of any complex urban center need to ensure that there is sufficient funding to run their affairs from day to day as well as for investing in the infrastructure that is necessary to service its businesses and citizens. One important determinant of whether enough finance is available is the extent to which cities are able to utilize local tax revenue and the extent to which this revenue goes to, and is controlled by, central government (Exhibit 15).

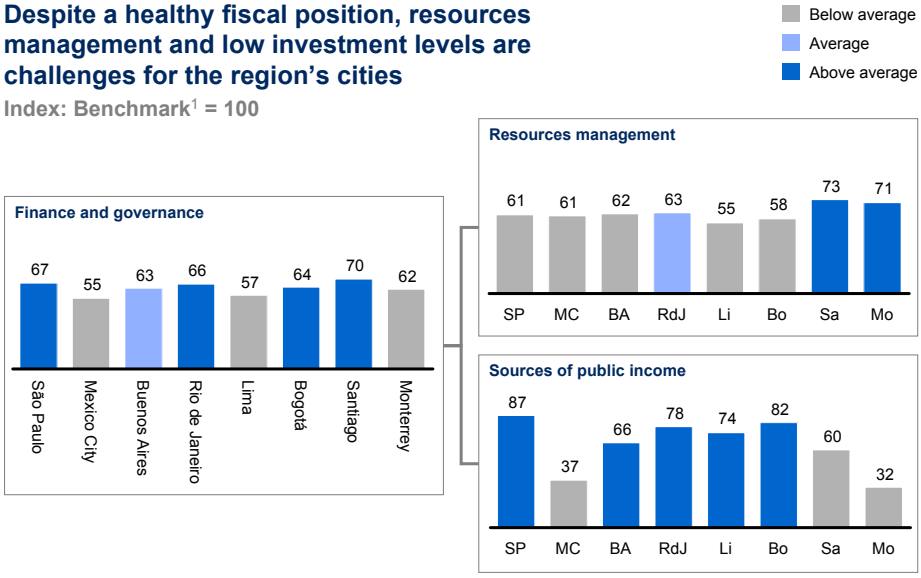
21 This figure corresponds to the New York-Northern New Jersey-Long Island metropolitan area. New York City, which consists of the boroughs of The Bronx, Brooklyn, Manhattan, Queens, and Staten Island, has a population density of around 10,000 inhabitants per square kilometer.

22 Incentives provided by Brazilian state governments to inward automotive investments are an example. See *New horizons: Multinational company investment in developing economies*, McKinsey Global Institute, October 2003 (www.mckinsey.com/mgi).

Exhibit 15

Despite a healthy fiscal position, resources management and low investment levels are challenges for the region's cities

Index: Benchmark[1] = 100



1 Benchmark defined for each measure as the average of Helsinki, New York, Singapore, and Toronto.
SOURCE: McKinsey Urban Performance Index

Resources management. At the time of this writing, most Latin American cities were in a healthy fiscal position. They are not overly indebted and are not running large deficits compared with international benchmarks. However, this fiscal "health" does not reflect sound urban financial management as much as constraints on borrowing and chronic underinvestment. In short, Latin American cities have robust fiscal positions because, compared with benchmark cities, they are underspending on critical services including housing, transportation, education, and health care. For example, Lima's per capita expenditure on education is less than 7 percent of that spent by New York; even Monterrey, the city with the highest education spending in the region, spends only 20 percent of New York's level. Demand is expected to continue to expand as these cities grow, yet infrastructure in many cities is already running into capacity constraints. While the investment needed varies from city to city, in general urban Latin America needs to find new, sustainable ways to finance long-term improvements to the urban infrastructure. Within a broad picture of low debt and deficit levels in the region's cities, there are variations. Looking at credit ratings, for instance, Santiago has the highest scoring at BBB and Buenos Aires the lowest at B; Helsinki's rating is AAA. The interest paid on public debt over current income—leverage—also varies widely from city to city. In Rio de Janeiro, leverage is 9 percent compared with New York's 13 percent. With the exception of Chile, corruption is a significant problem across the region.[23] Transparency International's Corruption Perceptions Index gives seven of the eight cities we have highlighted a transparency score of 4 or even lower (Buenos Aires being the lowest with 2.9) compared with 9.2 in Singapore and 8.7 in Toronto. Santiago stands out in Latin America with a score of 6.9.

23 Bogotá's 2010 Corruption Perceptions Index was 3.5, but we expect this to fall given the May 2011 suspension of the mayor and temporary imprisonment of key government officials pending allegations of corruption relating to the city's rapid bus system.

Sources of public income. We assessed the share of local government revenue that cities derive from taxes (including property, trade, and industry taxes) and public debt and found wide variation across the region. Brazil and Colombia have less centralized tax structures in which larger cities retain a greater share of local tax revenue and can impose additional taxes or grant tax exemptions locally. But in Mexico and Chile, the national government is the main tax authority; cities retain a smaller share of local tax revenue and have very limited local powers of taxation.[24] Most Latin American countries use taxes as a tool to transfer income to less developed areas.

DEMAND FOR IMPROVING URBAN INFRASTRUCTURE AND BASIC SERVICES IS SOARING—AND THE NEED FOR ACTION IS URGENT

Latin American cities have fallen short of being able to provide coordinated urban planning and sufficient infrastructure and services needed for efficient and livable cities. Parts of urban Latin America are crippled by traffic gridlock and have endemic shortages of affordable housing, battle with shortcomings in waste management, and suffer serious air and water pollution. The region's cities struggle to provide their growing urban populations with key services such as health and education. The inefficiencies translate into a direct drag on growth, with large monetary costs from waste in resource use and worker time spent in traffic jams.

Without action to improve capacity and management, Latin American cities are unlikely to be able to meet the demands of their expanding populations and growing economies. Over the next 15 years, we expect to see demand for improved infrastructure and the provision of basic urban services to increase:

- **Private vehicles.** In MGI's business-as-usual scenario, the region will face at least a 3 percent annual growth in the region's average per capita income over the next 15 years. If the typical relationship between income growth and new car sales holds true, we would expect this to translate into an increase of more than 4 percent a year in the number of new vehicles sold—implying a very large needed increase in the urban road infrastructure. To meet this demand, the region's cities need to find innovative ways of funding new infrastructure such as high-speed roads and inner-city roads. Within the region, Chile has put in place a sophisticated public-private partnership model to develop infrastructure.

- **Affordable housing.** Providing sufficient affordable housing to meet demand is an issue across all Latin American cities. The average livable space in the region's cities is 15 square meters per person, just over one-third of the average in Helsinki, the benchmark city on this indicator with 39 square meters per person. For example, according to data from the national statistical institute (DANE) of Colombia, there is a 19 percentage point gap today between housing supply and demand, implying a shortage of 620,000 dwellings. Demographic trends, including the declining size of households, suggest that without a substantial expansion in supply, the gap between supply and demand is likely to widen. We estimate that Bogotá will need to almost double its dwelling stock by 2025. In Mexico City and São Paulo, demand for housing will expand by more than 50 percent by 2025 (Exhibit 16). The task that Latin American cities face is far bigger than simply building sufficient affordable dwellings—they also need to construct the infrastructure services required by these households, namely

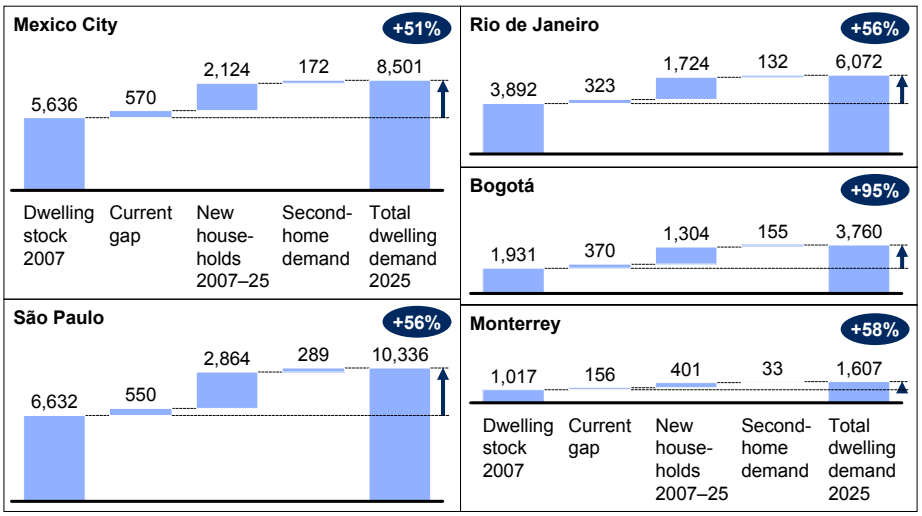
24 In the case of India, MGI suggests that large cities should be allowed to retain 18 to 20 percent of goods and services tax (GST) revenue. See *India's urban awakening: Building inclusive cities, sustaining economic growth*, McKinsey Global Institute, April 2010 (www.mckinsey.com/mgi).

sewage, water, gas, and electricity. MGI estimates that closing the current gap in the next 15 years and supplying future demand will require cumulative investment of nearly $400 billion in five of the major cities of the region and more than $3 trillion in the region as a whole.

Exhibit 16

Demographics will drive strong housing demand across the region over the next 15 years

Total housing requirements by 2025
Thousand dwellings



SOURCE: McKinsey Global Institute–McKinsey Latin America Model; McKinsey Global Institute analysis

- **Health care.** Demand for health care is expected to increase as the older population expands. Between now and 2025, the number of people aged 65 and older is expected to grow almost four times the rate of overall population growth. This means that the number of older people will almost double by 2025. As the age profile of the population shifts, the pattern of demand for health care will also evolve, adding another layer of complexity to the urban health care challenge.

- **Education.** More than 15 percent of the population will be aged between 15 and 24 years in 2025, putting pressure on educational provision from higher degrees to technical and vocational education. Demand for places at the full range of educational establishments is projected to rise by 1 million people between now and 2025. Demand for education will come not just from young people seeking useful qualification; businesses will urgently require their skills if cities are to optimize their growth. According to our estimates, Mexico City needs to increase the number of inhabitants with technical degrees by 65 percent while Rio de Janeiro needs to nearly triple the number of citizens with a university degree.

□ □ □

Struggling to meet urban demand for services and infrastructure imposes significant costs on Latin America's cities in terms of low productivity and growth and acts as a constraint on economic growth in the entire region. Governments, businesses, and the civil society need to work together on a comprehensive approach to improving the functioning and management of Latin America's major cities. The next section of this report provides examples of concrete actions that can be undertaken to close the gap to best practices both within Latin America's cities and beyond—and help cities consolidate their role as the region's main engine of economic growth.

3. How to shape competitive, inclusive cities

Managing 21st-century cities is a hugely complex task. But cities around the world, including those in Latin America, are rising to the challenge. Innovative city management programs in cities old and new around the globe—from London to Johannesburg and across China and India—have shown us that effective policies can turn around a city's fortunes in as little as ten years.

New approaches to management would help Latin American cities realize their economic potential and provide good social conditions for their citizens. Each city faces a distinct set of challenges and priorities, depending on its starting point. This section describes practical options from which the region's city managers can choose in order to improve performance on each of the four dimensions that together deliver dynamic, safe, and prosperous cities: economic performance, social conditions, sustainable resource use, and finance and governance.

1. LAYING THE GROUNDWORK FOR STRONG LOCAL ECONOMIC PERFORMANCE

While national policies, including regulation, have a significant influence on how cities are run, local policy choices on a range of factors are also very important to a city's economic performance. These include managing cities' physical environment from local land-use regulation to intra- and intercity infrastructure, and creating a business-friendly collaboration between the private and public sectors and, more broadly, civil society to foster investment and growth. To underpin a stable environment conducive to strong local economic development, city policy makers should consider prioritizing the following.

Transparent land ownership and zoning regulation. When businesses are considering where to locate, the regulatory framework governing land titles and ownership transfers are critical factors in their decision. Uncertainty about land titles or zoning regulations can translate into high costs for "titled" land and discourage global businesses from investing.[25] In many cities in Mexico, for instance, ambiguous land ownership continues to inhibit long-term investments because untitled land or buildings cannot be used as collateral for mortgages.

Reliable urban infrastructure. Chronically underfunded public utilities in many of the region's cities have led to unreliable and frequently costly public services. Argentina has severe electricity shortages every winter, a situation that many analysts blame on heavily regulated utility tariffs. The price of residential power in Argentina is significantly lower than in neighboring countries, and this encourages consumers

25 Edward Glaeser has shown how high levels of land and housing regulation can help explain differences in city growth patterns in the United States via inelastic housing supply and therefore higher housing prices. See Edward L. Glaeser, Joseph Gyourko, and Raven E. Saks, *Urban growth and housing supply*, Harvard Institute of Economic Research, discussion paper number 2062, February 2005.

to use more energy than private power providers say they can afford to supply.[26] Since the government froze utility tariffs in 2001, private utility companies have limited maintenance and investment on new capacity that they find unprofitable. According to some estimates, Argentina's industrial production is only half of what it could be during the winter months because of energy shortages.[27] As well as increasing investment in energy supply, Latin American cities need to step up investment significantly in transport, housing, power, water, and waste management to avoid bottlenecks and capacity shortfalls.

Intercity transportation networks. While regional production locations are often closely connected to one another within global value chains in Asia, Latin American cities in different countries rarely have strong transport and trade links. In fact, many Latin American cities have better flight connections to the United States and even Europe than to each other. If Latin American cities were better connected, they could benefit from the collective economies of scale and more of the opportunities for the complementary specialization that close-knit Asian production hubs enjoy. This could help change the region's economic dynamics. A more closely integrated domestic market also would make many more parts of Latin America attractive investment locations for local and global companies while encouraging exports, thereby increasing the regional economy's potential to grow.

Collaboration with the private sector. Local governments in many of the region's cities, including Medellín, Monterrey, and Santiago, have found innovative ways to work closely with local businesses, thereby building a good understanding of the constraints businesses face as they attempt to grow locally. This approach also creates opportunities for joint action in areas where cities may be able to create distinct local comparative advantage. In Oulu in Northern Finland, for instance, close collaboration among local businesses (with Nokia's lead), academia, and local government enabled the city to become a globally competitive wireless communications cluster (see Box 5, "Public-private collaboration that made Finland's IT sector globally competitive").

Close connections between local public and private sectors can have social as well as economic benefits. In the 1960s, private-sector companies in Medellín took a lead in including social responsibility in their reports to shareholders as well as pooling resources for investment in community services through organizations such as the Corona Foundation, a private, nonprofit-development organization in Colombia. These organizations invested in local parks, schools, and social centers for their workers and the community more broadly, a practice that has since become the standard across Colombia.

26 Charges for residential electricity in Buenos Aires are one-fifth those in São Paulo, 18 percent the price in Santiago, and 8 percent the price in Montevideo.

27 "Argentina lacks the energy to draw investment," *Financial Times*, October 3, 2010.

Box 5. Public-private collaboration that made Finland's IT sector globally competitive

In the 1980s and 1990s, Oulu, a city of 200,000 in Northern Finland, grew into a significant wireless industry cluster thanks to close collaboration among the local government, universities, and the private sector—particularly telecom giant Nokia. All of the stakeholders had a shared mission of sustaining local economic development and keeping Oulu competitive. With a government defense contract for military radios acting as the initial trigger, Nokia and the University of Oulu collaborated to develop a wireless communications system for sparsely populated areas. The Oulu initiative not only kept academic research close to business but also prompted local government to invest in expanding wireless engineering education at the expense of other public programs. With the municipality playing host, many smaller companies developed to serve the venture, creating a sustainable cluster of wireless talent and expertise.

Government played a crucial, enabling role both directly and indirectly. In addition to funding for university education and military contracts, the national government channeled R&D funding to the joint venture through the Finnish National Technology Agency (TEKES)—support that enabled Nokia to continue significant R&D during Finland's deep recession in the early 1990s. Indirectly, the regulatory framework also helped. Finland's telecom operators comprised a very large number of local cooperatives, rather than a single national monopoly as in many other countries, thanks to regulations friendly to small operators. This fragmented structure helped create dynamic competition, encouraging the small operators to experiment with new consumer solutions.

Strong links between academia and business. Close collaboration between academic institutions and business can yield innovation and new market development. For example, the US bioscience sector has grown up around universities such as Harvard and MIT. North Carolina's Research Triangle Park, formed around Duke University and the University of North Carolina and involving companies including IBM, led to the discovery of 3-D ultrasound technology. In Europe, the University of Sunderland in the United Kingdom formed an alliance that made Nissan's new car plant the most productive in Europe. And, as we have noted, the University of Oulu's science park helped form a cluster employing 18,000 people with a €5 billion ($7.2 billion) turnover. Latin America boasts its own examples of successful collaboration between academia and business. For example, the *Tecnológico de Monterrey* System is an educational complex that includes four institutions: *Instituto Tecnológico y de Estudios Superiores de Monterrey "Tec"* (the flagship institution), the *Universidad TecMilenio*, the *Universidad TecVirtual*, and the *TecSalud*. Thanks to continuous support from Mexican businesses, the *Tec de Monterrey* is increasing its international recognition as a research university (see Box 6, "The technology cluster built around the *Tecnológico de Monterrey* System").

Box 6. The technology cluster built around the *Tecnológico de Monterrey* System

The *Tecnológico de Monterrey* System has built a highly successful multicampus, private postsecondary system with more than 33 locations across Mexico. The *Tecnológico de Monterrey* System launched the Virtual University in 1989 and today offers distance learning via online courses for students in more than 30 countries. The institution has also established corporate universities with government and public- and private-sector institutions aimed at enhancing the development of human capital in companies and social organizations. The *Tecnológico de Monterrey* System's business school, founded in 1995, ranks seventh in the world outside the United States, according to the *Wall Street Journal*. The *Tecnológico de Monterrey* System has formed a deeply rooted entrepreneurial culture, developing technology parks (some of them have become clusters) in 12 cities in Mexico that host more than 80 companies employing a total of 1,700 people.

Since 2005, the *Tecnológico de Monterrey* System has emphasized the importance of social and scientific research and has led the development of proprietary technology among private schools in Mexico, notably in the biotechnology and engineering fields. The university hosted the first research program financed by Google in Latin America and, in association with the Mainz Institute of Microtechnology of Germany, set up the first center of microprocess engineering in the region. Since 2006, the *Tecnológico de Monterrey* System has been the leading patents applicant among Mexican universities.

2. CREATING A HIGH QUALITY OF LIFE FOR URBAN CITIZENS

Cássio Taniguchi, the former mayor of Curitiba, a middleweight city southwest of São Paulo, summed up the relationship between social conditions and the worth of a city in this way: "The value of a city is directly proportional to the degree of satisfaction of the people that live in it."[28] Academic evidence suggests that a high share of educated workers is one of the main reasons for higher per capita GDP in cities.[29] An urban environment that attracts and retains skilled individuals and improves citizens' well-being will act as a draw for businesses looking to invest.

Public safety. Public safety is a serious issue in many Latin American cities. Cities looking for approaches to improve on this aspect might examine New York's experience. In the 1990s, the New York Police Department (NYPD) implemented a seven-pronged strategy to reduce crime rates. The result of this initiative has been a fall in the number of homicides each year from 2,420 in 1993 to 1,550 in 1995 and 778 in 2009 (see Box 7, "The reengineering of the NYPD"). Buenos Aires is a Latin American example of ways to use technology to improve the effectiveness of the police force. The city has launched a new city police force of 15,000 officers with a focus on prevention through a central control center, the broader installation of cameras, and more in-depth analyses of crime patterns in order to better target resources to prevention.

28 Cássio Taniguchi, *Transported to the future*, www.ourplanet.com/imgversn/121/tanig.html.

29 E. Glaeser and J. Gottlieb, "The wealth of cities: agglomeration economies and spatial equilibrium in the United States," *Journal of Economic Literature*, 2009, Volume 47, Number 4, pp. 983–1028.

Box 7. The reengineering of the NYPD

In 1994, the NYPD initiated a program to transform the way the department approached crime in the city. Analysis of crime statistics underpinned a strategy with seven aims: getting guns off the street, driving drug dealers out of the city, curbing youth violence in schools and on the streets, breaking the circle of domestic violence, reclaiming public spaces, reducing auto-related crime, and rooting out corruption from the police department.

The department undertook a wave of raids to find illegal weapons and locate where drug dealers were operating. The department updated the criminal record of any suspect in its database. An IT investment of $500,000 enabled the department to assess geographic crime patterns twice a week and to adjust the deployment of officers to what was happening on the ground. The program also empowered police officers and strengthened their public impact by upgrading their uniforms, bulletproof vests, cars, and weapons. Officers were evaluated using a new performance tracking system based on standards that more explicitly assessed the outcomes of their activities—e.g., the results of 911 calls pursued by each patrol officer.

Declining crime rates in the city and a recovery in its reputation with the New York public both provide evidence that the NYPD has implemented the program with a high degree of success.

Accessible housing. Good planning that reduces commuting times directly increases the quality of life for urban citizens and improves productivity by reducing time spent in cars and wasted fuel consumption. However, reorganizing the distribution of living and working areas is a challenge in most of the region's cities. In Mexico City, for instance, meeting housing needs will likely require a shift from horizontal to vertical construction. The city needs to increase urban density and relocate population from the periphery to the center. This policy would take advantage of existing infrastructure, and a more concentrated population density would enable the more efficient use of mass transit. Harmonizing municipal land laws and regional transport projects with housing policy is crucial.

An additional challenge for housing is extending access to mortgages to those on low incomes. There is an opportunity to achieve this given more developed financial markets in the region, and some countries have already made headway. Mexico's Infonavit program provides government-backed mortgages to qualified households as well as private-sector mortgage products suitable for low-income households.[30]

Efficient public transportation. We have discussed the high cost that chronic traffic congestion imposes on the quality of life, productivity, and economic growth of many Latin American cities. Improving the capacity, efficiency, and cost-effectiveness of urban transportation is a major challenge, but, again, there are examples within the region of best practice. In Curitiba, 54 percent of all journeys taken are on public transport—that's 2.4 million passengers a day. In addition, Curitiba has per capita

30 India faces the mammoth task of providing affordable homes to an estimated 38 million households by 2030 that will not be able to afford a market-priced house. No other country has provided affordable housing on this scale. MGI research has found that India could step up its provision of affordable housing ten times through making 30 percent of all affordable housing available to rent, putting in place a favorable tax regime, and setting up a national mortgage guarantee fund. See *India's urban awakening: Building inclusive cities, sustaining economic growth*, McKinsey Global Institute, April 2010 (www.mckinsey.com/mgi).

GDP of 1.4 times the country's average, a lower unemployment rate than the Brazilian national average, and 55 square meters of green space per resident compared with the World Health Organization's recommended area of 16 square meters per resident (see Box 8, "Curitiba's model public transportation system").[31] Curitiba's success has provided a model for some larger cities. Bogotá's Transmilenio transport system, for instance, has also boosted the quality of urban life by regulating transport costs and reducing commuting times.

Box 8. Curitiba's model public transportation system

Curitiba responded proactively to the population boom of the late 1960s and early 1970s by making efficient urban transportation the cornerstone of its economic strategy to ensure high quality of life in the city. The city created an Institute for Research and Urban Planning in Curitiba, or IPPUC, in 1965 to oversee the revamping of the city's transportation system from a radial to a linear model. The institute held public debates involving citizens and the private sector, drew up a mass-transit plan, and then put it into practice. A major part of the plan was constructing two main structural roads in 1974 (subsequently increased to five), each with two central lanes reserved for express buses and standard lanes for two-way traffic on each side. The new design was accompanied by zoning laws so that density decreased as one traveled outward from the city center.

The city created a state-owned company, Urbanização de Curitiba (URBS), to maintain the city's transportation infrastructure and oversee bus companies. A 1987 municipal law regulated the granting of licenses and reimbursements to companies according to the number of kilometers traveled instead of the number of passengers carried—preventing competition among bus companies from clogging up the roads. URBS sets the fare necessary to cover all the costs incurred by the bus companies, ensuring that the transportation system needs no subsidies. The city has continually introduced improvements to the system. For instance, the IPPUC and the URBS have collaborated to install bike paths, tube stations (elevated slightly above the street to minimize passenger loading/unloading time and increase accessibility for disabled people), and articulated buses.

High-quality education. For both economic and human welfare reasons, Latin America's cities need to continue to prioritize extending access to education and improving educational quality if they are to close today's large gap in educational infrastructure and quality. Santiago has pioneered a number of initiatives to improve its education system and today has the highest PISA results among its peer cities. The initiatives include extended school days and a certification program that encourages higher quality and continuous improvement in the teaching profession. The AVDI (*Asignación Variable por Desempeño Individual*, or variable compensation for individual performance) assessment applies to all active teachers in Chile every four years. Based on an initial assessment by peers and a committee, highly qualified teachers take part in an exam that will entitle them to additional compensation for a specific period. Teachers with poorer performance assessments can enter professional-development programs free of charge to close any performance gaps.

31 For more detail, see Alicia Fazzano and Marc A. Weiss, Curitiba, Brazil: *Metropolitan economic strategy report*, July 2004 (www.globalurban.org/GUD%20Curitiba%20MES%20Report.pdf).

Public-private partnerships to improve access to public services. When public management capabilities and financing fall short, a public-private partnership model is an attractive option for improving urban services. China has recently allowed the private sector to participate in financing urban infrastructure projects, mainly in joint ventures with local governments and publicly owned companies. The financing of the building of Line 1 of Shanghai Metro has involved at least nine companies and public institutions.[32] These joint ventures have tended to be successful, suggesting that this approach will continue. There are innovative examples of public-private partnerships in Latin America, too, including Colombia's Vive Digital Plan to quadruple broadband penetration, both fixed and mobile, in just four years (see Box 9, "Colombia's public-private partnership for expanding broadband").

Box 9. Colombia's public-private partnership for expanding broadband

Today, broadband penetration in Colombia is low. In 2008, there were only 4.6 fixed broadband subscribers per 100 of the population compared with 30.4 in Germany, and only 1.0 per 100 mobile subscribers compared with 75.5 in Japan, for instance. Colombia plans to quadruple broadband penetration—fixed and mobile—through public- and private-sector collaboration along the following principles:

- Promoting the development of the private sector in order to expand infrastructure and offer services
- Comprehensively incentivizing the supply and demand of digital services to reach a critical mass
- Reducing the burden of constructing infrastructure and offering telecom services
- Eliminating regulatory barriers at the national and municipal levels
- Prioritizing state resources in capital investments

The government plans to invest $200 million in expanding the coverage of the National Fiber Optics Network and is structuring a national bidding framework that invites the private sector to invest and execute the proposed plans. The plan also calls on the government to create "technocenters" or meeting points to provide access, training, and entertainment. The government will encourage the private sector by reducing and/or eliminating value-added tax on Internet services and by offering tax reductions on PCs and parts. On the regulatory front, the government will take an open-access approach, define minimum technical standards, and impose a legally binding condition on developers that obliges them to install networks in new housing. The plan also provides for the government to set up a public-private capital risk fund to finance companies that provide broadband applications.

32 *Preparing for China's urban billion*, McKinsey Global Institute, February 2009 (www.mckinsey.com/mgi).

3. MAKING CITIES ENVIRONMENTALLY SUSTAINABLE BY USING RESOURCES EFFICIENTLY

Around the world, cities account for roughly 75 percent of global energy consumption and 80 percent of greenhouse gas (GHG) emissions, according to the United Nations. Despite the fact that densely populated urban centers are usually more efficient in their use of resources than are more dispersed cities or rural areas, most still fail to take full advantage of economically attractive opportunities to boost resource productivity and reduce waste. Latin America's cities are no exception and should consider making sustainable resource use—a "green city" agenda—an integral part of their plans for promoting economic growth and a better quality of life.

Improve energy productivity. Cities should try to manage demand for resources rather than focusing on the much more costly option of building new supply infrastructure to keep pace with unchecked demand. The key is to boost energy productivity—the level of output achieved from the energy consumed.[33] To reap the full benefits of higher energy productivity, cities need to impose standards of energy use and offer incentives to reduce usage, backed by rigorous enforcement. Cities can set standards of energy efficiency through building regulations, including building codes requiring improved insulation or by mandating the use of energy-efficient lighting in new buildings. They can deploy incentives to encourage investment in energy-efficient industrial equipment, lighting, and appliances as well as improved fuel efficiency in car fleets. The region's cities also need to find ways of reducing waste in the electricity supply infrastructure and to deploy the latest higher-efficiency technologies across sectors. By boosting energy productivity, Latin America's cities would generate positive returns from future energy savings and free up resources to invest elsewhere. In China, MGI estimates that a drive to raise energy productivity, combined with smart urban planning, could cut urban energy demand in 2025 by more than 20 percent compared with current trends. In Latin America, this type of approach has many benefits compared with today's policy of offering energy subsidies in many regions.

Set green standards for city demand. Collaboration among the region's cities is another untapped opportunity. Cities are bulk buyers of a broad range of goods and services, and they could use their collective buying power to help foster green standards. If cities were to pool purchases from suppliers, they could both reduce their costs and increase the volume of demand for new technologies and solutions, incubating the growth of local suppliers and boosting green standards. Latin America has a number of examples of green initiatives, including Curitiba's urban transport system. Mexico City has a Green Living program that has reduced the city's carbon emissions by almost six million metric tonnes (10 percent) since 2008, through measures such as upgrading the city's public transit and taxi fleet to newer, more fuel-efficient vehicles and reducing the sulphur content of gasoline.

Improve the efficiency of urban distribution. Today, the distribution of goods around Latin America's cities is inefficient and contributes significantly to air pollution. Cities' travel and distribution infrastructures have failed to keep pace with growth, a pattern not uncommon in large cities around the world. Our analysis finds that there is an opportunity to reduce traffic congestion and the CO_2 emissions of trucks by up

33 For a full analysis of energy productivity and the investment needed to capture available opportunities, see *Curbing global energy demand growth: The energy productivity opportunity*, McKinsey Global Institute, May 2007; and The *case for investing in energy productivity*, McKinsey Global Institute, February 2008 (www.mckinsey.com/mgi).

to 30 percent—at very low cost—by increasing the operational efficiency of goods distribution.

Barcelona, Kuala Lumpur, and Amsterdam have pioneered cross-industry collaboration to improve the effectiveness of urban distribution systems. In most cities, there are two main reasons for their inefficiency. First, although goods and freight transport accounts for only around 20 percent of vehicles, these types of vehicles travel at a slightly slower pace than other traffic. They create "moving bottlenecks" that contribute disproportionately to congestion. Second, our experience in global cities shows that, on average, freight vehicles have a load factor of only about 40 percent of capacity. This low capacity utilization and low volume per drop-off point are explained by three factors: freight companies are under increasing pressure to deliver just-in-time on tough deadlines; they have to cope with a wide spread of delivery points within a city; and the volume of deliveries is increasing with the fragmentation of value chains. A way to reduce waste in such an environment is to roll out cross-docking facilities on the edges of the urban area. The trucks can gather at certain points on the city outskirts and have a logistics company consolidate inbound materials so that trucks can continue into the city with full loads, preferably to a single delivery point, or only a few that are close together. The city, retail companies, and logistics providers have to form a partnership to build and maintain such a system. McKinsey research estimates that, in a city with a population of 1 million to 2 million, the initial investment required to set up such a system would be $5 million. Cross-docking facilities could boost average traffic speed on key arterial routes by eight kilometers (four miles) an hour. In the United Kingdom, the city of Bristol and London's Heathrow Airport already have effective cross-docking systems (see Box 10, "Cross-docking in Bristol, United Kingdom").

Box 10. Cross-docking in Bristol, United Kingdom

A cross-docking scheme has been working effectively in Bristol since May 2004. START (Short Term Actions to Reorganize Transport of goods) is a partnership between the Bristol City Council and DHL Supply Chain.[1] They have been operating a consolidation center to help reduce congestion and pollution in the city center by streamlining deliveries and reducing the number of delivery vehicles traveling into the city's main shopping area. The more than 70 retailers served by the scheme have reduced their delivery vehicles' movements by nearly 80 percent since START's inception. This means a saving of 8,967 lorry trips, equating to 226,816 lorry kilometers and a resulting reduction in emissions of 27 tonnes of CO_2, 870 kilograms of NO_x, and 25.9 kilograms of PM10. Retailers in the system also get their waste and packaging material collected, which has meant recycling 17.1 tons of cardboard and plastic.

1 More information is available at www.start-project.org.

Make waste management profitable. Most waste-management systems in Latin America are ineffective because they neither encourage the public to reduce waste, by charging them by weight or number of bags, nor treat the waste in a sustainable way. Most of the waste generated ends up in landfill sites, some of which are approaching full capacity. Solving this issue is not a simple task, but local government can take action and promote the reduction, reuse, and recycling of waste (see Box 11, "An integrated waste-management system for Mexico City").

Box 11. An integrated waste-management system for Mexico City

Mexico City's main landfill is approaching full capacity. Not only is the city running up against capacity constraints but it has also been losing an estimated $300 million a year through inefficient waste management. The city is executing a new, integrated waste-management program that focuses on reducing the amount of waste generated and creating maximum value from waste. The program is named 5R (reduce, reuse, recollect, recycle, and recover) and consists of 20 initiatives along these five dimensions (Exhibit 17). The city will measure progress in volume, economic, and environmental terms and will monitor results. Fully implemented, the program could reduce the amount of waste sent to landfills by 80 percent, extend the life of landfill capacity by 39 years, and help improve the sustainable management of the city in the long term.

Exhibit 17

Programs in the 5R project comprise an integrated waste-management strategy to reduce waste and extract maximum value

Reduce	Reuse	Recollect	Recycle	Recover
1. Reduce polyethylene terephthalate (PET) bottle weight	3. Prohibit the production and sale of light plastic bags to promote the use of heavy reusable bags	6. Automate the monitoring and control of waste collection	12. Separate organic and inorganic waste from the point of origin	15. Recover economic value from organic waste through composting
2. Reduce newspaper weight	4. Reuse paper in government offices to act as role model	7. Achieve the required separation by recollecting organic waste through an independent and private company	13. Optimize the efficiency of the waste-separation plants	16. Recover economic value from inorganic waste through energy recovery and gasification
	5. Promote reuse and recycling through education programs	8. Separate all waste from the point of origin	14. Create a system for the deposit and reuse/ recycling of all bottles, both plastic and glass	17. Implement adequate processes and machinery for the landfill's efficient functioning
		9. Plan centralized collection routes		18. Reinject leachate residues generated by the landfill
		10. Improve the collection system		19. Optimize the land use in the landfill
		11. Regulate and control final disposal of construction waste		20. Implement mechanisms to capture and utilize methane from the landfill

4. ESTABLISHING EFFICIENT, TRANSPARENT, AND FINANCIALLY SOUND URBAN GOVERNANCE

Cities are highly complex to manage. Their day-to-day running depends on strong leadership and effective and systematic urban planning to make the most sensible use of scarce resources, and on sound finances. In this section, we look at how Latin American cities shape up on these aspects of urban management and suggest how they might be able to become more effective.

Long-term planning and coordination. Many Latin American cities don't have a single governing body that is both responsible and accountable for results. Rather, they have a fragmented management structure that splits responsibilities among the various layers of governance (city, county, state, and federal) as well as among different authorities for specialized services such as housing or transportation. Lack of coordination among all these components of urban governance exacerbates inefficiency and wastes resources. Integral urban planning that includes rewards tied to achieving goals is at the core of a new approach being adopted in Latin America.

For example, Rio de Janeiro has put in place a set of financial and nonfinancial incentives for the mayor's staff in order to achieve success in 50 initiatives in four categories—economic, political, social, and environmental (see Box 12, "Rio 2020").[34]

Box 12. Rio 2020

Rio de Janeiro's 2020 program, launched in 2010, set itself the ambitious goal of making the city the most livable and green city on earth. It articulated a detailed vision with concrete targets including, for example, becoming the second-largest tourist center in the Southern Hemisphere and the headquarters of the major Brazilian multinationals. The city aims to develop the highest quality public education in the country, make the largest cut in the housing deficit, eliminate slums, have the lowest CO_2 emissions, treat 80 percent of the volume of sewage generated in the city, and grow the most vegetation of any city in the world. The program has not only defined its objectives—detailing 50 major projects—but also prioritized them and set out new protocols for rewarding and incentivizing public officials, including one additional month's salary for public servants who achieve their goals. With the strategy in place, the city also established regular monthly, quarterly, and annual meetings to review progress and set rolling priorities. It also holds an annual public event to award prizes, with full media coverage to ensure transparency and promote public engagement and interest in the process.

Sustainable and responsible fiscal management. A low rate of overall investment has been a chronic barrier to the region's growth and has imposed a hard constraint on cities. Latin America's cities need to invest more to build infrastructure ahead of, rather than behind, the curve of demand. The main sources of revenue to finance investment in infrastructure include collecting higher property taxes, charging users of publicly funded services, and forming public-private partnerships that both mobilize private- and public-sector capital and benefit from private-sector experience in using resources efficiently and minimizing risks.[35]

Some Latin American cities already benefit from appropriate charges to users of public services and successful public-private partnerships. Medellín, for instance, has generated healthy flows of finance through its effective management of publicly

34 In India, MGI recommended a "cascaded" planning structure in which large cities have detailed, comprehensive, and enforceable 40-year and 20-year plans at the metropolitan level that are binding on municipal development plans. Especially important is land use and Floor Area Ratio (FAR) planning that should focus on linking public transportation with zoning for affordable houses for low-income groups. MGI found that by revamping its planning system in this way, India could save more than 6 million hectares of potentially arable land over the next 20 years. See *India's urban awakening: Building inclusive cities, sustaining economic growth*, April 2010 (www.mckinsey.com/mgi).

35 China has made significant use of an additional source of income: revenue from land sales. Because of China's unique property rights system, cities have been able to sell land bought cheaply in the first place to investors at preferential rates and this has been a significant driver of industrialization and expansion. As cities have used land as an incentive to businesses, so, in turn, they have attracted more migrant workers seeking new companies and factories. The sale of land has allowed China's cities to be proactive in funding and building infrastructure. Before the Chinese government tightened the rules on land sales, this practice accounted for roughly (and unofficially) 10 to 50 percent of local government revenue. There is no doubt that, without this source of revenue, China's urbanization would not have been so rapid, although we should note that this phenomenon has unarguably led to arable land depletion, urban sprawl, and social tensions. See *Preparing for China's urban billion*, McKinsey Global Institute, February 2009 (www.mckinsey.com/mgi).

owned utility companies Empresas Públicas de Medellín (EPM) and UNE, both of which depend on user charges for their revenue. These companies have proved to be at least as efficient as privately owned utilities in other cities in Colombia and have expanded internationally to the considerable benefit of the local Medellín economy. Despite being a public utility, EPM keeps its equity completely separate from municipal properties and funds, and the utility's cash flow comes exclusively from user charges.

When public funding is insufficient, public-private partnerships can be an attractive alternative for funding and running infrastructural projects. Santiago—and indeed Chile more broadly—has a number of sophisticated public-private partnerships to fund public investments in highways, airports, stadiums, and even emergency services (see Box 13, "Chile's success in public-private partnerships").

Box 13. Chile's success in public-private partnerships

The road to Santiago's Arturo Merino Benitez International Airport opened in September 1995 and was the first concession with tolls in a Latin American city. The city contracted out its toll system on a 2.2-kilometer stretch of road to a private consortium for 12.5 years at a cost of $8.6 million. Since then, Chile's government has established public-private partnerships for investment in both rural and urban roads, four new airports, six new terminals, hospitals, the public square of La Ciudadela, the O'Higgins Park stadium, and the city's Justice Center.

Chile's long tradition of public-private partnerships came to the attention of the world with the rescue in autumn 2010 of 33 miners buried in the San Jose mine in Copiapo. The Chilean government hired and worked closely with private companies in planning the rescue. Kansas-based Layne Christensen supplied the drills that located the miners and built the hole through which the team made the rescue. The South African firm Murray & Roberts supplied a 40-ton drilling machine. The Canadian Precision Drilling Corporation created a backup rescue shaft. Center Rock and Schramm, both headquartered in the United States, designed the specialized drill bits and automated hammers used in the rescue. The British firm Aramark worked with the Chilean Ministry of Health and NASA experts to provide special dietary food and vaccines to the trapped miners. A US company, Zephyr Technologies, provided the digital sensors and wireless technology to monitor the miners' health underground. The Chilean military designed the capsule used to bring the miners to the surface, and the Chilean government led the coordination of all these efforts.

□ □ □

The management and capacity of many of Latin America's large cities are stretched, and these urban centers are falling far below their economic and social potential. However, in collaboration with the private sector, mayors can implement a range of initiatives that have proved successful in urban settings around the world and in some cities within the region.

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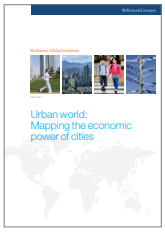

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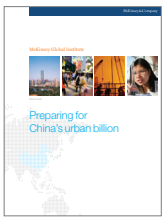
How to compete and grow: A sector guide to policy (March 2010)

Drawing on industry case studies from around the world, MGI analyzes policies and regulations that have succeeded and those that have failed in fostering economic growth and competitiveness at the sector level. What emerge are some surprising findings that run counter to the way many policy makers are thinking about the task at hand.



Preparing for China's urban billion (February 2009)

By pursuing a more concentrated urbanization path guided by action to boost urban productivity, China's local and national policy leaders could minimize the pressures and maximize the economic benefits of urban expansion. A two-part report details the scale, pace, and global implications of urbanization at the sector and city levels.

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